

American FORESTS



MARCH 1931

35 CENTS A COPY

FOR VALUE RECEIVED



A GREAT MANY PEOPLE will tell you that the biggest single service that five cents can buy today is a local telephone call. Without question, it is big value . . . and value that steadily grows as new telephones come into your neighborhood.

There are times when telephone service is priceless . . . when the ability to call instantly a doctor, a policeman, or the fire department could not be measured in terms of money.

But it is not alone the emergencies that give the telephone its value. There are the commonplace of every-day conversation . . . in the home, the shop, the office . . . whenever you wish two-way communication with any one, almost anywhere.

The telephone has become such an every-

day, matter-of-fact convenience—like running water and electricity—that it is natural to take it for granted. It is well to pause occasionally and consider the nation-wide organization of men, money, and materials that makes this vital service possible, and at such low cost.

Here is a system of the public, for the public . . . run on the barest margin of profit consistent with service, security, and expansion. A service that grows as the community grows . . . placing within the reach of an increasing number the means to talk back and forth with people in the next block, the next county, a distant state, a foreign country, or on a ship at sea!

No other money that you spend can bring you more actual value.

★ AMERICAN TELEPHONE AND TELEGRAPH COMPANY ★





Photograph by V. Akers

AMERICAN FORESTS

OVID BUTLER, Editor

L. M. CROMELIN and ERLE KAUFFMAN, Assistant Editors

Published Monthly—35 cents a copy—\$4.00 a year

1727 K Street Northwest
WASHINGTON, D. C.

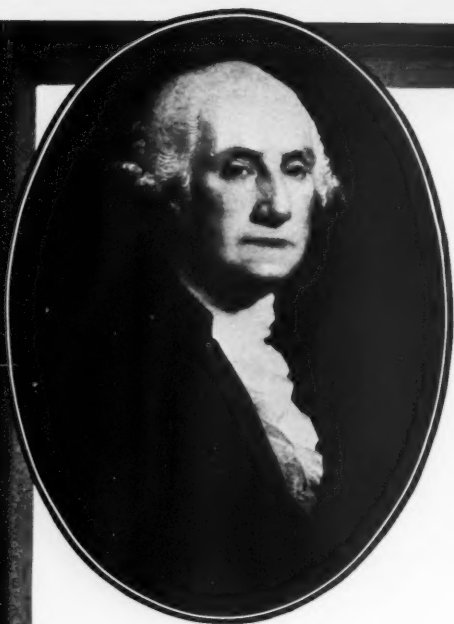
Vol. 37

MARCH, 1931

No. 3

CONTENTS

THE COVER—"Northward Bound" Painted by WILLARD D. GILLETTE	
TREES AND THE FARM HOME By ALEXANDER LEGGE	131
PICTURES OF THE WHITETAILS By BEN EAST	133
NEW FORESTS FOR PORTO RICO By THEODORE ROOSEVELT	137
THE SLEEP OF ALL CREATION By ARCHIBALD RUTLEDGE	139
SHILLELAGH	143
THE LAND OF EVERLASTING FIRE By WALLACE R. FARRINGTON	144
BIRD LIFE IN THE EVERGLADES	148
FROM FOREST TO WASTE LAND By G. H. LENTZ	150
THE LAKE JOVITA FIRE CLUB By W. C. McCORMICK	152
THROUGH THE LENS—Photography for the Outdoorsman Conducted by FRED H. KIBER	154
PREDESTINATION Poem by ISABEL FORNER WEDDON	156
OLD TREES OF WASHINGTON—Part III By ADELAIDE BORAH	157
AN AMATEUR REFORESTS By GEORGE L. ROHDENBURG	161
EDITORIALS	163
A FOREST PAGE FOR BOYS AND GIRLS Conducted by WAKELIN McNEEL	165
SAPLING SAM'S SCRAPBOOK	167
FINANCIAL STATEMENT OF THE AMERICAN FORESTRY ASSOCIATION	168
AROUND THE STATES	170
BOOK NEWS AND REVIEWS	178
THOSE AMONG US YOU SHOULD KNOW	179
THE LEGISLATIVE CALENDAR IN CONGRESS	180
ASK THE FORESTER	185
"WHO'S WHO" AMONG OUR AUTHORS	192



TO HONOR WASHINGTON—

that great American whose greatness in no wise dimmed or detracted from his humanity—announcement is made that a

BICENTENNIAL NUMBER

of American Forests, published at Washington by The American Forestry Association, will be issued in February, 1932, devoted to the trees of Washington, the man,—and Washington, the city.

The world knows Washington, the Patriot and Soldier. Here is the opportunity to know Washington, lover and planter of trees—as he lived in private life, when he put aside his public duties and retired to his beautiful estate on the shores of the Potomac, to enjoy what he himself called “the practice of the domestic virtues.”

This is a story the knowing of which will further endear him to the hearts of the world. And it is to be graphically and appropriately told in a special number in 1932,—the two hundredth anniversary of his birth.

A PLANTER AND LOVER OF TREES—

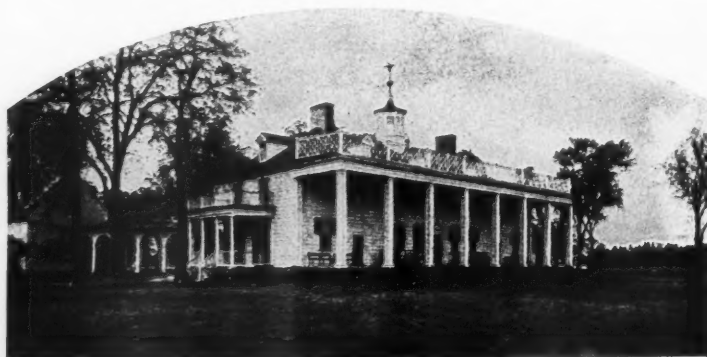
Intensely interested in the development of his estates, Washington's diaries of 1785 and 1786 are replete with meticulous recording of his personal planting of trees and shrubs. The beautification of his lands was a passion with him and he sought specimens from every quarter adapted to planting there. In this his friends on both sides of the Atlantic gave him enthusiastic help, and the list of trees he himself planted at Mount Vernon is long and extremely interesting.

A CONSERVER OF TIMBER—

Fences of split rails were in common use subdividing the thousands of acres of his farms, and he early realized the necessity for careful use of timber. With this in mind, in 1795 he wrote: “At least fifteen years have I been urging my managers to substitute live fences in lieu of dead ones—which, if continued upon the extensive scale my farms require, must exhaust all my timber: And, to the moment, I have not one that is complete, nor ever shall unless they are attended to in the manner before mentioned,—plants immediately put in to replace those that die, and so on until the hedge is close, compact and sufficient to answer the purpose for which it is designed.”

A LOVER OF WILD LIFE—

On the bluff between the Mansion house and the river, the undergrowth was wild and tangled. Its disorderly look and the expense of keeping it down by care was a problem he met by introducing wild life. Enclosing about one hundred acres, he stocked it with deer to beat down the thicket. Thus in characteristic fashion he combined economy and the further enchancement of his property. In 1785 he wrote his good friend, Lord Fairfax: “Mr. Ogle of Maryland has been so obliging as to present me with six fawns of English deer from his park in Bellair. With these and tolerable care, I shall soon have a full stock for my small paddock.”



MOUNT VERNON

“The grateful children of America will make pilgrimage to it as a shrine . . . the memory and name of Washington shall shed an eternal glory on the spot.”—Edward Everett

AMERICAN FORESTS

Vol. 37

MARCH, 1931

No. 3

Trees and the Farm Home

By ALEXANDER LEGGE

Chairman, Federal Farm Board

IT MAY seem to many that national progress in forest conservation and reforestation is slow, but whatever our personal viewpoints may be, it is well to bear in mind that all large undertakings are slow in getting started. Regulation of the transportation service was discussed for a quarter of a century before action was taken and after the start was made it was a long time before those most interested got in step with what had to be done. The same is true of the banking situation. Even after the passage of the Federal Reserve Act, it was a long time before the system was accepted by many of those who seemed to be most deeply interested. One of the late great movements was the passage of the Agricultural Marketing Act, after some ten or twelve years of active discussion of the subject. Now that the act is an accomplished fact, many people no doubt will be out of patience with the movement before sufficient progress is made to satisfy the average citizen that we are making progress.

The Federal Farm Board is engaged in the task of trying to help the American farmer help himself out of his present under-dog position. Broadly speaking, its efforts are centered at this time on two major activities. One is to assist the farmer in developing a marketing system of his own that will return to him the full market value of his product. The other is to bring about an adjustment of production to probable market demand, and this is one of the places in which the operations of the board tie in very closely with those advocating a comprehensive program of reforestation, which I will refer to later. The objective of these activities is to enable the farmer to control his own industry and thereby place it on an equality with other industries.

The program to accomplish this result is laid down by Congress in the Agricultural Marketing Act. If it succeeds—and the progress made to date gives hope that it will do so measurably, but not overnight—there will be a new day for

American agriculture. Once farmers take advantage of the opportunity offered them, through cooperative organization, to gain control of their industry, the small and large producer will benefit alike.

"One of the serious problems confronting our farmers today is that of overproduction on certain commodities, and in this program of readjustment it is our belief that reforestation will play an important part."

Through improved income, the farmer will be in position to make many much-needed improvements on his farm which have been neglected in recent years. He will provide more comforts for his family, greater protection for his livestock, a better-looking farm and one that in every respect is a better place to live. When that time comes, the desire will be to own

a farm with the first thought of it as a home—a place to live and make a living, rather than a place to get away from as quickly as possible.

In my opinion, the result of the program we are supporting will refute the contention of those who insist the only solution to the agricultural problem is industrial farming; that is, the operation of large tracts of land by corporations. On the contrary, it will result in the retention of the system on which our agriculture has been built; that is, individual farm ownership and operation. In the past the nation's best protection against the 'isms originating in other countries and some of our own overcrowded cities has been the rural home life of the individual who in many cases, due in large measure at least to causes outside his own control, has not kept pace with those in other lines. Largely because of this increasing disparity between agriculture and other industries, there has been a tendency away from the farm as a place to live, but I confidently believe we are now at the turning-

back point. However, the start has only been made. Everyone interested in preserving for our country a healthy, strong and prosperous agriculture should not hesitate in supporting the program being developed to give this industry an equal opportunity with other industries.

One of the serious problems confronting our farmers today is that of overproduction on certain commodities and in this program of readjustment it is our belief that reforestation



Alexander Legge.

will play an important part. There is no doubt that today people are trying to cultivate large areas of land that could be more profitably employed in raising pulpwood and other forest products. This problem of better land utilization is too broad a subject to discuss here, but it is one of the important factors and will have to be dealt with before the problem can be solved.

An encouraging feature of the movement is the interest that is being shown by several of the large farm organizations in plans for improving home surroundings on the farm, all of which speak for a greater interest in tree planting. Perhaps the first efforts will run more along the line of shrub-

depress the future market for it. The actual job of adjusting production is one that can be done only by the farmer. The Government cannot solve this problem for him, but it can give information and advice to enable him to do so. Agriculture cannot hope to be prosperous as long as the farmers produce more than can be sold at a profit. While every effort should be made to increase consumption, it is a first essential to know at planting time that there is a probable market for the crop about to be produced.

Another duty imposed on the board is that of investigating and reporting on this subject of land utilization for agricultural purposes, rather an immense task as well as an



The planting of trees will add much to the beauty of the homestead and the farm woodlot contributes much to the successful operation of the farm factory, in that it offers shelter for stock in winter, shade in summer, provides firewood and countless other necessities.

bery and flowers, but this class of beautification of the homestead calls for a considerable amount of labor in care and attendance which people engaged in farming do not need from the standpoint of exercise. On the other hand, the planting of trees will add much to the beauty of the homestead if chosen according to the particular location in which they are to grow, and require little effort in the way of care and attention. Such planting around the farm buildings and along the roadways would add much to the pleasure and comfort of future generations who may live on the farm.

One of the duties of the Farm Board is to give to the farmers information relative to production and market outlook at planting time so that they may adjust their crops to the probable consuming demand. Some of our major crop farmers have drifted into trouble rather unconsciously, continuing to produce that particular commodity of which there was already in sight a surplus of sufficient size to seriously

important one. Because of pressure of other business during this period of severe world-wide depression, only a little progress has been made on this matter to date, but it is one of the most important of all measures looking toward a better future for agriculture.

The Federal and many of the state governments are making some headway toward restoring our depleted forests and commercial interests are coming to realize that the native timber supply will not last forever and that they must help to replant forests if we are to have an adequate supply for future requirements. Even in the best agricultural districts the farmers can well afford to devote a small portion of their acreage to timber. A few acres taken out of cultivation in this way on the average farm might easily mean the difference between a profitable and unprofitable operation for the area remaining in cultivation. The woodlot offers shelter to his stock in winter, shade in (Continued on page 189)



ARRESTED MOTION
A remarkable study made by daylight, as the sun shone through the treetops. B. L. Brown

Pictures of the Whitetails

By BEN EAST

THE sun dropped steadily down toward the tall spruce spires along the western edge of the little clearing. Long shadows crept steadily out from the dark wall of forest that rimmed the meadow and we watched those shadows anxiously, eagerly.

The remaining minutes of sunlight were few. Unless something caused the five whitetail deer—feeding with provocative slowness toward the center of the clearing—to quicken their pace they would come within camera range too late for good light.

Still the sun dropped, still shadows lengthened, and still the deer came on, a foot at a time, nibbling daintily at the short grass.

Behind us the surf beat with a soft, steady whisper on the stony beach of the Straits of Mackinac. The brisk wind

that swept in off the straits was sharp with the chill of early spring and the branches of the lone pine at the shoreward side of the clearing afforded only a meager shelter.

My teeth chattered until I wondered whether they would betray me should the deer come close enough for pictures.

I glanced down at Floyd Brunson, superintendent of Wilderness State Park, and at Mike Laway, Big

Stone Bay fisherman, to see how they fared. They were hidden behind a low bank where the wind could not strike and suffered far less than I.

The rim of the great red orb touched the tip of the highest spruce spire, and I leveled my camera and studied the deer—five tiny gray dots on the ground glass. With a more powerful lens I might have made it. As it was there was no use



From the window of the old cabin we photographed the deer on the salt lick, but a few yards away.



Less than a hundred feet of where I lay in hiding with my camera the deer came, in no great hurry, apparently sensing no alarm. Still, it was only a picture of deer on the run, not the sort I had really hoped to get.

to press the shutter release. When I looked again the sun was a blazing ball caught in the latticed tops of the forest. The light was gone. I had failed again.

This was by no means the first time I had tried without success to make pictures of the whitetails in their summer pastures. Small wonder that George Shiras, III, Marquette naturalist, who pioneered in the great field of wild-life photography, said many years ago that the deer of northern Michigan were probably the most difficult camera subjects of all the wild animals he had encountered.

From below the rim of the bank we watched that band of deer for more than a half hour, while dusk deepened over the northern forest and an unseasonably early whippoorwill set up his cadenced calling back in the timber. They finally worked their way along toward the far corner of the clearing, close to the crest of a steep, wooded bank. Others came out of the woods to join them and five of the herd made their way almost to the edge of the bluff.

Then just to test the eyesight of the feeding deer, I left our hiding place by the pine and walked along the foot of the bluff. Coming to one of their well-traveled runways that led up the steep bank, I carefully made my way up, inch by

inch, stepping on no dry twig, letting no alder or young birch swish against my clothing.

My head came level with the top of the bluff and through a fringe of low brush I peered out over the darkening meadow. Five deer fed peacefully, literally within stone's throw of me, blissfully unaware that I was on the same continent with them. The nearest was no more than fifty feet away. Very carefully I pulled myself up until only the fringe of brush separated me from the deer. Then with the utmost caution, moving only when all five were feeding, I wormed through the brush until I was clear of all cover. There in the open field, within forty feet of the nearest doe, I came slowly to my feet.

It was incredible! I had moved up and surprised an animal that in all the forest has few peers for wariness. I was standing erect now, unbelievably close to them, and because their noses and ears brought them no warning—I had the wind across my shoulders, of course—they had no suspicion of my presence.

I think at that moment I felt the same triumphant thrill that quickens the pulse of wolf or cougar at the end of a successful stalk, just when the muscles are flexing for



The light was fading and there was no chance for a second attempt. At the clatter of the shutter, they leaped as at the sting of an arrow, five flags pointed skyward and the five deer rocked away.

the long soaring leap or the swift scrambling rush.

I had brought my heavy camera with me, futile as I knew it to be. Slowly I opened it, lifted and leveled it and brought it to focus on the nearest doe, moving with clocklike deliberation. In the waning light the deer was only a gray smudge on the finder, but I tripped the shutter anyway.

At its clatter the five deer leaped as at the sting of an arrow, facing me with heads lifted, ears erect, all alarm and consternation. For a few seconds they stared, striving to locate the danger that had moved upon them, the menace they had heard but could not see. Then I whistled softly, and they waited no longer upon the identity of their visitor or the order of their going. Five flags flashed white in the dusk, and from the timber a sharp snort rang out, to send other flags flying woodward farther along the edge of the meadow.

I wondered how long it would take them to recover from



their fright, whether they would again come confidently out into the old clearing that evening in quest of young grass. After supper I drove along a little-used road at the foot of the bluff. At the point where the timber thinned out the darkness ahead was suddenly stabbed by a great constellation of greenish stars, always in pairs.

I stopped the car and turned on a powerful spotlight. In its searching beam I watched the deer come back from the beach where they had gone for water, their eyes still flashing like twin balls of luminous fire. They crossed the road before me, some running, some walking, and went clambering up the steep runways that led to the crest of the bluff.

Since then and before that evening I have tried many times to make pictures of the whitetails. Usually I have failed, for it is, as Shiras said, no easy task to photograph these fleet-footed folk of the timberlands in their summer pastures. Once or twice I have succeeded after a modest fashion, but on only one occasion have I made deer pictures that really satisfied my photographic lust. Then it was amazingly easy.

On Crane Island, the day after my failure in the clearing, I tried again, under different circumstances this time—and with somewhat better luck. Separated from the mainland by a narrow, deep cut, Crane Island is an interesting place so far as the whitetails are concerned. One may visit there in late summer or autumn and never find a deer. One may

tramp the length and breadth of the island on snowshoes in winter, walking over the tops of the low cedars that barred the way in August, and not see so much as the track of a deer. The trails of snowshoe hares will be everywhere in the cedar and through the patches of aspen, and one may cross the trail of a lone fox or coyote. But never is a deer runway visible, despite the fact that cedar browse is abundant and that deer are wintering on the mainland only a short distance away.

But a visit to Crane Island—it is shown on the old charts as Waugoshance Island—from early May until late June or July will be likely to disclose deer in every patch of timber. Tiny clumps of cedar that appear inadequate to hide a crow will provide ample cover for a full-grown doe in those spring weeks.

One may flush does from patches of timber on Crane Island during May and June, may see them feeding along the beaches, may surprise them off little sandy points, standing knee deep in the cold water of the straits. And one will find, in addition to this abundance of does, tiny spotted fawns hidden in the tall grass back of the beach or lying in the shade of cedar clumps where their anxious mothers have hidden them away.

For Crane Island is a natural fawning refuge for the deer of that region. Years ago, no one knows how long, the does began swimming across the cut in early spring, doubtless seeking a place of safety from timber wolves and other enemies that ranged the wilderness. The habit has come



Quietly and contentedly feeding one minute, the next she faced me, head lifted, ears erect, ready to meet any emergency.

down through the years, perhaps through the centuries, doubtless from the days when elk roamed the forests of Michigan and caribou wandered south as far as the Straits of Mackinac on their winter migration.

There the fawns are born and there the does remain until the summer pasturage becomes scarce and the fawns are old enough to be led across the cut to the mainland. Then Crane Island sees no more deer until another spring.

In a patch of cedar and aspen on the island I cornered five does simply by driving them one by one from the smaller thickets. When the five were gathered in the timber, Brunson and Laway went around to the westward and came down the beach with the wind, driving the band out of cover within less than a hundred feet of where I lay in hiding with my camera.

They came in no great hurry, in single file with their flags down, an unerring sign that they sensed no great alarm. A fairly good picture rewarded this strategy. Still, it was a picture of deer on the run, driven past the blind, not deer at home in the summer woods, quiet and undisturbed. Nor was there a chance for a second attempt. At the clatter of the shutter five flags leaped skyward and five deer rocked away down the beach. When

I finally did succeed in making the whitetail pictures I had futilely coveted so long, it was as might have been expected, easy to the point of absurdity. At an ancient cabin, buried in the northern wilderness, miles from the nearest neighbor and occupied by a friendly trapper who had made the deer offerings of salt all summer, I found one July afternoon a band of whitetails so tame that filming them was only a little more difficult than photographing a flock of sheep. It far exceeded sheep photography for thrills, however. While we slept in the cabin that night

a doe, doubtless this same one, came up and rubbed her muzzle against our window screen. The next morning at sunrise we pointed the camera through an open window in the loft of the cabin and photographed does and bucks on a salt lick but a few yards away until we grew weary of it. For a day and a half there at the ancient, wilderness-cloistered cabin we reveled in friendly intimacy with the whitetails. If I am never again privileged to make a closeup picture of an unfrightened deer in the summer forest I shall not be discontent, remembering that visit to the old cabin in the north woods.

The most beautiful picture I have of a deer, however, is one that is not recorded on any sensitive plate or film, one that cannot be reproduced in tones of black and white on photographic paper. I sat with Walter Hastings one night on the shores of a little forest-flanked lake in the Two-Heart country of northern Michigan, on the south shore of Lake Superior. We were in quest of beaver pictures. It was September and the harvest season was at hand for these engineers of the forest. We had waited in a blind near the beaver dam at the foot of the lake until sundown, hoping to catch some member of the colony at its early evening tasks. But the light was no longer strong enough for pictures.

A little later, as we sat in a thicket of young birches on a low hill overlooking the lake, two beavers appeared a few yards offshore, swimming back and forth, casting black ripples across the rose and saffron reflections in the water. Then, as suddenly as the beavers appeared, Hastings caught

my arm and pointed. A little distance down the shore a doe was materializing, picking her way daintily out of the timber, down the steep bank to the lake, as soundless as a shadow. Her red coat of late summer was shining like satin in the afterglow of sunset. She reached the water, put her muzzle down and drank deeply while the beavers played around in a fearless wilderness comradeship. Then the

doe lifted her head, sharp ears pricked forward, and stood staring off toward the forest on the opposite shore. Perhaps

she had prophetic visions of an antlered lover who should come that way before October had painted the last leaves on the birches. And I must mention two other deer that eluded my camera but left a lasting memory. They were a pair of bucks that came one October morning at daybreak, to feed at

the back door of my hunting camp in the Lake Superior country. The hunting season was still six weeks away, and these bucks had grown unwary from months of security.

I had scattered scraps of bacon there the night before as a friendship offering to the porcupines of the neighborhood. There is a quality in the steady gnawing of a gray old porcupine in the silence of a wilderness night that lulls me to the deepest sleep.

The deer had beaten the quilled sloths to the salt-flavored bacon, however, and still lingered by the woodpile. Around them the red and golden leaves of fall made a brilliant carpet on the forest floor. Even in the gray dawn light of morning their sleek coats fairly shone, and their beamed antlers were polished and hard as steel sabers.

For a minute while I watched through a window they were utterly unaware that their arch enemy had occupied at least the cabin where they had ranged undisturbed all night. Then some subtle warning of sound or scent was borne to them from the silent camp. Simultaneously their heads were flung up, their sharp, alert ears pricked toward the door. An instant later the nearer dashed away, his white flag flashing among the birches and the balsams. Then the second one whirled. But alas for him! His first long bound brought him down with a crash upon the heap of rusty tin cans left by hunting parties of past autumns. From that clattering heap the frightened buck fled as if all the imps of the forests were at his heels, as he no doubt thought they were. And standing there in the cabin door, half convulsed with laughter, I gained one more mental picture of the whitetails that I shall never forget!



T. Gregory
and W. Hodges

One may flush does from patches of timber on Crane Island during May and June, may see them feeding along the beaches, or surprise them off the little sandy points.

"Across the shaken bastions of the years
March drives his windy chariot wheels of cold."
—Arthur Davison Ficke.

New Forests for Porto Rico

By THEODORE ROOSEVELT

Governor of Porto Rico

DUE to the very dense population of Porto Rico—about four hundred and fifty people to the square mile—there has been, particularly during the last thirty years, a rapid deforestation of the island. The natural result has been suffering and real hardships. The island is having increasing difficulty with its water supply; its streams, especially on the south coast, tend now to be either in freshet or dry. Therefore, Porto Rico is very much interested in forestry—especially reforestation.

Reforestation has been undertaken wherever possible, but the island's resources are very scant. There is opportunity to carry on this work because many acres, particularly in the mountainous sections, are of little value for anything but forests. The attitude of the people is favorable to planting trees. According to William Kramer, supervisor of the Luquillo National Forest in Porto Rico, America's only tropical National Forest, the demand for young trees for forest planting far exceeds the supply.

The second aspect of this problem comes practically entirely in the national point of view. It is my belief that in the future the United States will have to depend for its lumber in ever-increasing ratio on the tropics. Timbers of the North grow slowly, and cannot keep up to expanding needs of the nation. On the other hand, timber grows very rapidly in the tropics—four or five times as rapidly as in the continental United States. This fact should be recognized and a tropical forest experiment station established to study the problems and develop the use of tropical wood.

There is no place under the American flag so fully adapted to this work as Porto Rico. From the coastal plains to the mountain tops there is a variety of climatic and soil conditions which duplicate

practically all phases encountered in the various tropical countries. There is provision for the establishment of a tropical forest experiment station under the Clarke-McNary Act, but up to the present time it has been inoperative because of the lack of funds. This, I think, is unfortunate, as it is a work that should be undertaken immediately.

Porto Rico has been turning its attention to the conservation and study of forests as exemplified on the continent. That is quite right, but it must not be forgotten that a vitally important part of the conservation of the United States continental resources in forests

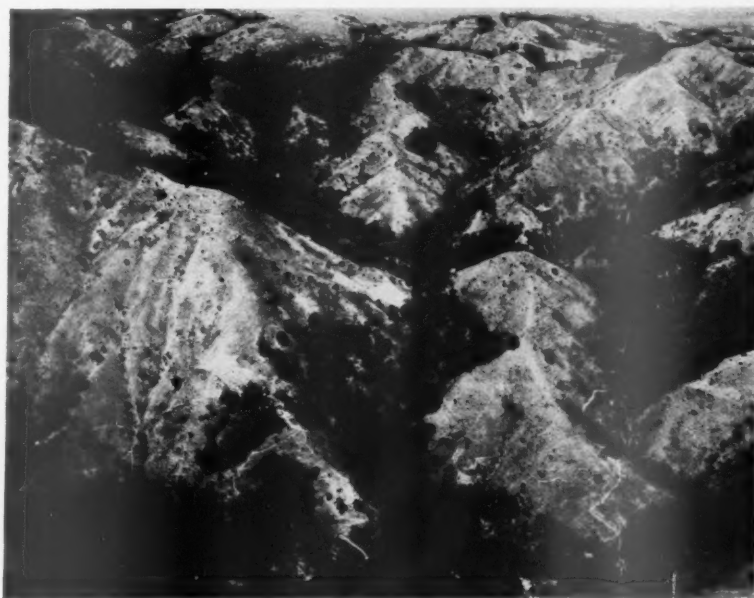
is providing for the intelligent use of lumber from other sources.

What I have stated here are my own conclusions formed from personal observation. It is only ten days since I visited the Luquillo National Forest. In the interests of Porto Rico and in the interests of the United States in general, that Federal forest range should be extended greatly by the purchase of land which lies on the slopes of the mountain range that is the backbone of the island.

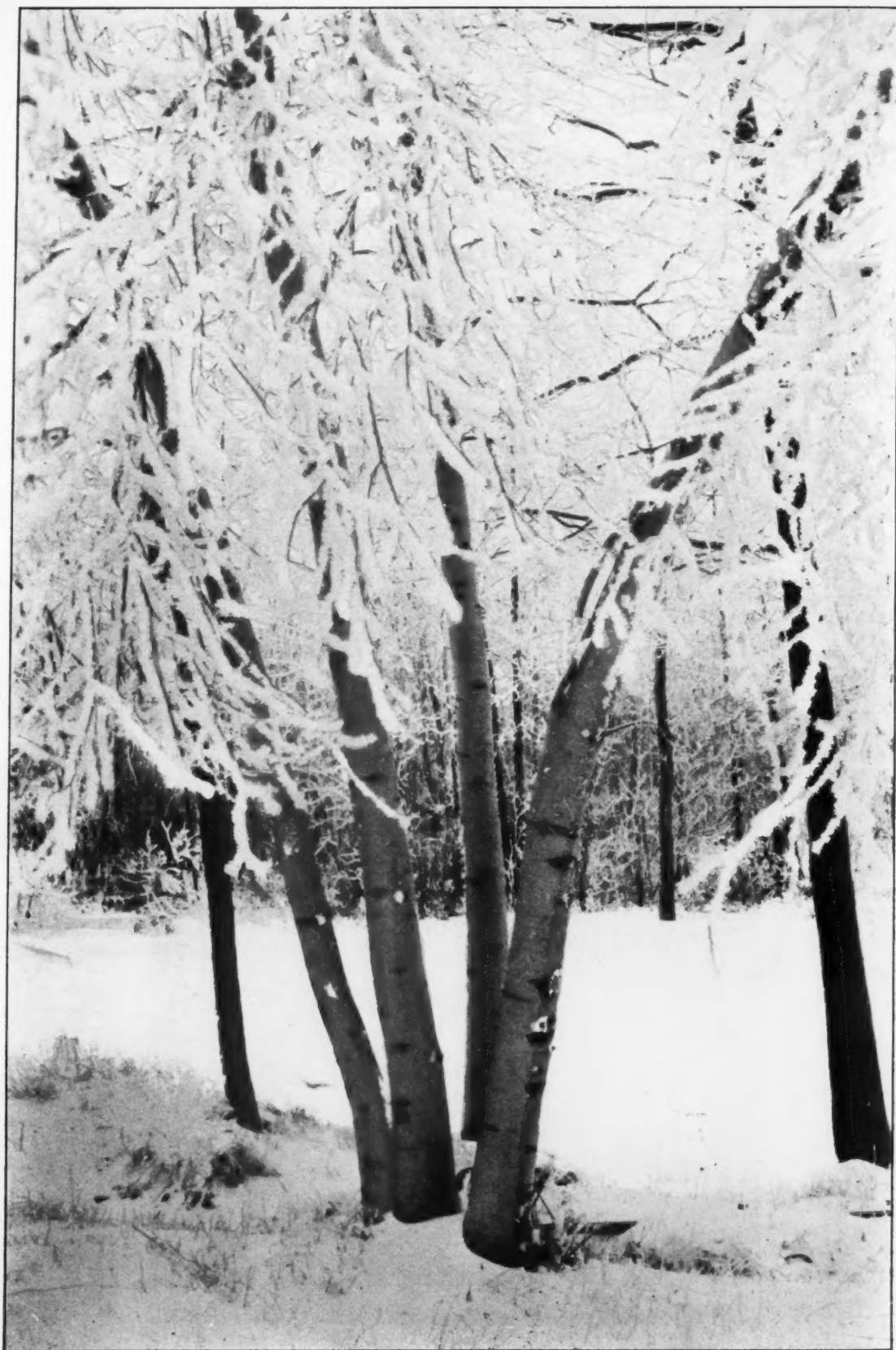
The Luquillo National Forest now contains 12,448 acres of rugged forest covered land. An increase of 50,000 acres

is reasonably possible and will not materially add to the costs of administration. Under government protection forest productivity will be restored, the island will be assured supplies of vitally necessary fuel for domestic use, and soil losses through erosion will be controlled. At the same time federal cooperation in forest fire control under the Clarke-McNary law will give the people of Porto Rico much needed help in protecting their forest resources from destruction or damage by fire. Such cooperation is already contemplated or actually available in Alaska and Hawaii.

On January 6 Senator Bingham, of Connecticut, introduced a joint resolution in Congress which would extend to Porto Rico the same terms and conditions as the states receive from the Clarke-McNary Act, and authorizing the purchase of 50,000 acres of land to be added to the Luquillo National Forest. The following day, Mr. Davila, delegate from Porto Rico, introduced a similar resolution in the House. Both bills have been favorably reported to the respective Houses of Congress, but no action has been taken.



Why there is an urgent need for reforestation in Porto Rico. These denuded areas are bringing about increasing difficulty with the water supply of the island, for the streams tend to be either in freshet or dry, due to erosion. Governor Roosevelt believes that reforestation work should be immediately done in these regions, and that the only National Forest in tropical America should be expanded to cover an area of 60,000 acres.



Photograph by Edward B. Jones

Is there a greater mystery than the mystery of the seasons? The winter sleep of trees!—they rest, "full of sweet dreams and quiet breathing"—gathering strength for the beautiful, tranquil work of another year.

The Sleep of All Creation

By ARCHIBALD RUTLEDGE

IT HAS long been a harmless hobby of mine to bring from the wildwoods the more exotic and care-exacting shrubs and wild flowers—lady'sslippers, arbutus, trailing pine, rock roses, fringed gentian, wild honeysuckle—and to attempt to grow them in my yard, which is fortunately adjacent to a grove of hemlocks and white pines, of birches and white oaks.

Before daylight on a calm March morning I stopped my car at the end of a wild lane that led into the mountain. The weather was mild; the forest floor was clear of snow and unfrozen. Ground pine was my particular quest. But I had to await the coming of day.

The woods were dark and hushed—not the stillness of fear or of suspended cries; not the silence of old death, but a tranced and fragrant quiet, living and primeval. I could smell the dewy aroma of the white pines, the scented airs breathed from the mosses and the tawny carpets of shed leaves. I waited a half hour, but day did not break. Getting out of my car to look for light, I found snow falling, sifting sibilantly down on the wild sweet forest, with ghostly tender fingers touching with its crystalline magic the pine needles,

the mosses, the leaves, ridging with pearly radiance the tiniest and most obscure twig. There was no wind; only the whispering symphony of the snow, like the hushed music of some far-off sea, heard in a romantic dream. It seemed evident that my ground pine would be covered before there would be daylight sufficient for its gathering.

Yet there was something better than that for me here in the dimness, with the snow steeping the world in beauty and slumber. It was a sense of heaven-offered sleep; a distillation of silence and snow and dreaming woods; a folded mystery.

I got out of my car in the strange gray light, in the sibilant, white woods. I seemed almost an intruder amid that magic immaculacy. By the time I had gone a quarter of a mile down an old trail, the winter's day had come, revealing on every hand the kind of calm, natural beauty that alone can bring peace to the human heart; this sleeping beauty had about it no languor or inertness, but a dreaming vitality.

My path led me by a small grove of shagbark hickories—stalwart, noble trees a century old; trees of massive strength, of stubborn hardihood; yet friendly trees, and fragrant in



Photograph by V. Akers

I stood in the dreaming loveliness of a tranced world—the somnolent trees—the softly stirring, whitened air—the miracle of the snow—God's work. And under the snow and behind the silence lay a pervading sense of tranquil slumber.

their sleep. Their winter's sleep! Is there a greater mystery than the mystery of the seasons? Past man's devising is the majesty of this eternal miracle. Here is a giant hickory; all spring and summer he has worn his splendid crown of foliage; he has breathed deep and rejoiced; he has brought his blossoms into fruit; he has felt his beauty burn away in the slow, calm conflagration of autumn. Now he is fast asleep! He rests from his labors. He gathers strength for the beautiful, tranquil work of another year. Though the tiniest tip of the topmost branch is glowing with life and health, it is the strange restful vigor of sleep which animates it, "full of sweet dreams and quiet breathing."

Poets have lamented over winter as a season of death and decay. Rather in nature it is a deep and fragrant night,

on powerful, unerring wings, his swift and masterful flight threading the glimmering, dense wildwood with thrilling precision. I saw in the snow the fresh tracks of a buck. But the forest itself was deep in slumber.

Coming to a little mountain brook that purred its way softly among mossy rocks, I saw the rhododendrons sleeping—their long glistening leaves, washed by the snow, were slightly curled inward and hanging straight downward. There was about these noble shrubs an air of relaxation, of submissiveness. But they did not flag in lethargy. Dormant, they dreamed of flowers—of great pink and white clusters of gorgeous rosebay blooms. An air of patient expectancy brooded over their innocent sleep. Theirs was the delicious trance of one who awaits the assured coming of a lover.



Photograph by B. L. Brown

The mantle of the snow had covered the ground where I sought the ground pine, where the birch trees stood in silvery beauty, dreaming of the coming of spring.

whose dawning shall be the radiant one of springtime. What makes me love its sleep is the assurance, through this marvelous provision, of the guiding hand of God—the intimate, tender touch of an almighty wand on the great world of growth and blossom, foliage and fruit. "He giveth His beloved sleep."

In the pearly luminance of that winter's morning I walked deep into the solitary wood. Nor, though apparently asleep in the beautiful falling snow, was it lifeless. A chickadee called merrily; a gray squirrel scampered in a mist of disturbed flakes along an old rail fence that sagged its way through a dogwood thicket; I saw a rabbit cozily couched on top of a stump at least two feet high. There was a bowl-like depression in its top, filled with leaves; and here he was snuggled for the day. The warmth of his body melted the snow as it fell upon him. From a tangle of wild grapes where he had spent the night, a cock grouse thundered away

If what what we wish does not come within the moment, within the hour, we are prone to be restive, impatient. We should learn of nature—especially of her calmer moods in wintry woods—to wait until our own shall come to us. There is no more rational security for joy, no higher manifestation of fragrant grace of heart than patience.

Beyond the stream I came to a long-deserted cabin about which stood apple trees and ancient cherries. Though chill and bare, these trees had the indefinable vigor of growth rather than the aspect of decay. The bark on trunks and limbs and twigs was ruddy with health. The human inhabitants of the deserted little home had long since vanished, but the survivors of their pride and care were alive and joyous, awaiting the mystic word of the springtime to clothe themselves once more in beauty, and to yield their life-sustaining abundance.

When I reached the birch copse where my ground pine

was growing, the snow had covered it, an immaculate mantle stretching away into the mysterious silence and the haunting shadows.

There was a delicate consonance of beauty about these silvery-hued birches dreaming in the argent snowfall. Their long graceful branches swept earthward; they seemed like naiads with their long tresses thrown forward and down. There was no sound save the remote and tender sifting of the snow. The bush and the tree and the vine and the sagged fence to virginal marble were wrought before my very eyes; they were statued in lily-white stone. And under the snow and behind the silence was the pervading sense of tranquil slumber.

All about me was the Creator's work—in these somnolent trees, in the hale winter's air, in the miracle of the snow, in the strength-restoring sleep given to all, in the dreaming loveliness of the tranced world—not "bankrupt of life yet prodigal of ease," but resting before the glad

resumption of further beautiful work. On the edge of an old pasture I came upon an old walnut, its swarthy, strong limbs clearly etched against the soft tumult of the windless

snowstorm. Perhaps there is no other tree that looks so powerful and enduring on the winter's landscape as the

black walnut. Its aboriginal hardihood renews hope in us. Here in this solitude this dark monarch towered regnant and brave—an outpost that had been dauntless in all storms, a lone sentry of the wilds. Now he stood sleeping, a sleep of accomplishment and of calm expectancy. Surely God loves His trees and he gives them sleep.

There is about the hibernation of trees and shrubs an evidence of divine provision that is lost only on the unreflecting and the sophisticated. Bears and certain other creatures of the wild withdraw into dens and caves for the long, cold months. The trees stand where they are; yet they, too, in a sense withdraw. They stand, but their lifeblood retreats into the generous and sheltering bosom of the ancient mother. The tides of fragrant sap that shall later surge through the new leaves in emerald waves, breaking into deli-

cate foam of blossoms—this retreats earthward, is stored, is conserved. Nor is it mere romantic sentiment for us to see in this a marvelous prevision and provision.



Photograph by B. L. Brown

By a little mountain brook, the shrubs were sleeping. Dormant, they dreamed of flowers to come—gorgeous clusters of pink and white. Winter is not a season of death and decay—rather in nature it is a period of rest—a deep and fragrant night, whose dawning shall be the radiant one of springtime.

The sleep of the trees in winter has its miniature counterpart in the folding away of their beauty every night by certain leaves and blossoms. The hemerocallis, a yellow lily, closes its petals during the night; at dawn it reopens its lustrous corolla, shedding abroad a sweet jonquil odor. The humble dandelion, tightly closed, dreams the dark hours away. The Easter daisies, their tiny silver spikes gathered in close sheaves, sleep like innocent elves. The acacia folds its leaves at night, one over the other; the blue lupin lets its hands droop at its side; the primrose raises her hands over her pretty head when the sandman comes. The snowy blossom of the water lily gathers its petals together and joyously resigns itself to long hours of rest in the immense and fragrant privacy of night.

The sleep of creation is never a frowsy affair; there are no evil dreams; there are no disconsolate awakenings. All is order, peace, refreshment—the wholesome gladness of the day merging softly into the wholesome gladness of the dark. Creation sleeps to be restored, whether for a night or for a winter. Creation sleeps in the tranquil splendor of a primal strength, resting before a radiant awakening. This marvel of a universal relaxation is, as far as we can judge, peculiar to our own planet. All we know about the mystery called life is about life on the earth. My reason, whatever may be the quality of its intelligence, does not permit me to share in the popular notion that, because the telescope has brought hundreds of thousands of other worlds into view, the significance of the earth in the vast universe is correspondingly diminished. Rather, to my simple way of thinking, the peculiar position and extraordinary character of the earth is by these amazing disclosures emphasized; for, as far as our certain knowledge extends and as far even as cool conjecture can go, however illimitable the firmament, there is no other inhabited sphere. What if there are millions of other worlds—whole systems of stars and mighty suns? Insofar as we know they are either frozen or on fire; therefore, in a sense, dead. Trillions of monstrous, perished globes are as nothing in vital

significance compared to the living earth. This view appears wholly tenable, and it serves to comfort us with the thought that, after all, we may be the favored children of God. We are not mere stardust tossed off in the roaring, chance medley of creation. We seem truly to represent a definite,

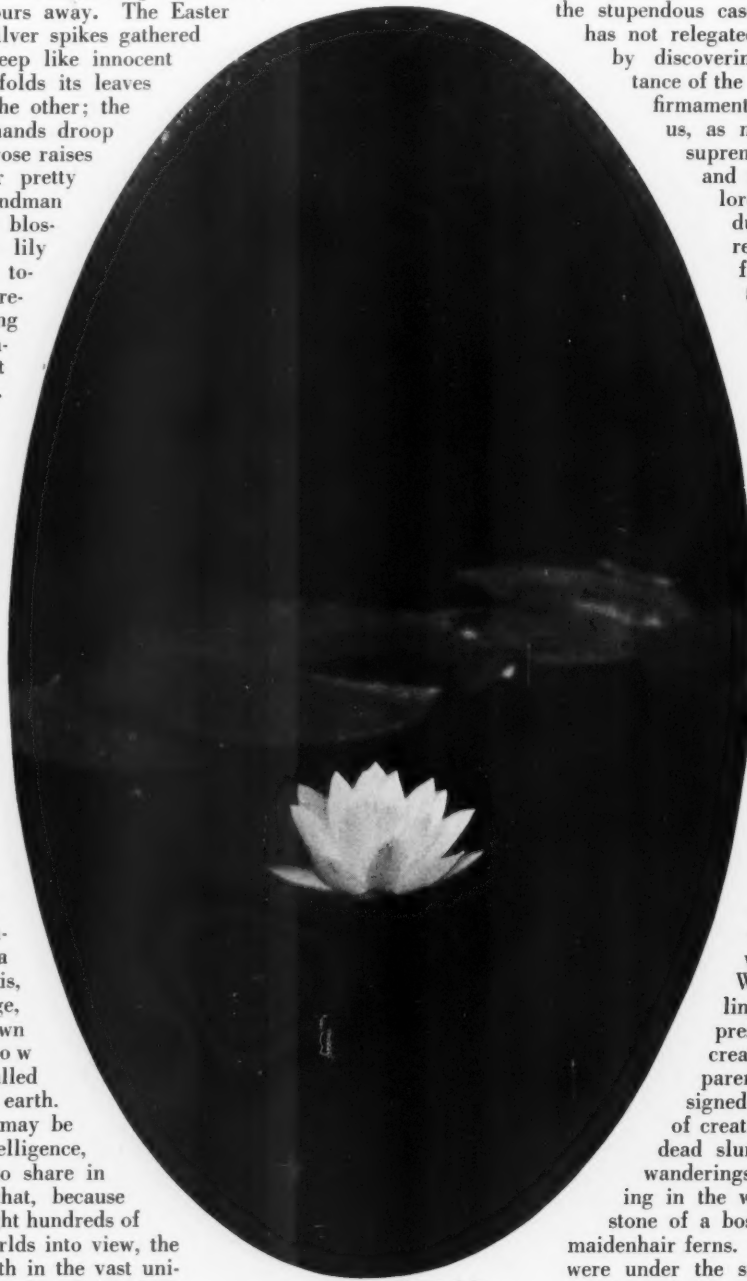
divine experiment. Science, in throwing wide the stupendous casements to the universe, has not relegated us to paltriness; but, by discovering the huge unimportance of the rest of the spheres in the firmament, has brought home to us, as nothing else could, our supreme importance. Men and women are, under God, lords of the universe. The durable satisfaction in this reasonable belief comes from our consciousness that we are the sons of God, receiving His especial care. There is

nothing to the contrary that has any weight of reason with it. Recently a scientist scornfully called the earth a "cosmic juvenile."

But sound sense favors the view that our world is the most extraordinary sphere in the entire cosmos. It may not be; but, judged by the facts as we now have them, it is. Science would repudiate her own nature if she rendered a verdict not according to the evidence at hand. The size of the earth and its age have little to do with its importance.

What makes it startlingly significant is the presence upon it of living creatures, for whom apparently the place was designedly prepared. The rest of creation is plunged in vast, dead slumber. In my further wanderings that crystalline morning in the woods, I came, on the stone of a bosky bank, to a bed of maidenhair ferns. The roots and crowns were under the snow, but the delicate fronds of the previous summer were still standing. Like a miniature brown forest they stood—a fairy woodland, now being touched into pearly beauty by the magic

wand of the snow. Here was a deserted rendezvous of Titania and all her shadow-footed followers; but not abandoned. The maidenheads were only dreaming; and when they had rested, would reclothe themselves once more in beryl beauty, to shelter the tiny revelers of the elfin world, trimly dancing by the dimpled brook under a summer's moon. But there must first be a (Continuing on page 168)



Photograph by
Henry Hendricks Ketcham

The sleeping lily wakes at dawn.

Shillelagh



EVERYONE knows that the war club was an ancient weapon, but it seldom occurs to anyone that in this day of highly efficient arms—shell-pumping machine guns and various demoniacal chemical devices designed to destroy and to defend—that this weapon is still in use, without having changed markedly from its prehistoric original, in form and manner of handling. Numerically, the clubs of today exceed the clubs of history, even when the cudgel was the chief weapon of the defender and provider of the household. The billy clubs of New York's police force far outnumber all the clubs used in the territory of the United States at the period of the discovery of America.

The early American citizen selected his weapon from the resilient wood of trees, sometimes thoughtfully topping off the business end of it with a jagged rock. His delight in military adornment led him to decorate his weapon with a tassel of bears' claws strung on a rawhide wang.

His African contemporary cunningly spiked his huge "persuader," the better to impale the wandering missionary; and he adorned his club with tributes from the personal belongings of the deceased.

Tradition, folklore, and everyday routine of the Irish peasantry are linked with the shillelagh. The Paddy who ventured forth in search of adventure without a good stout blackthorn grasped in his hand often returned with a broken skull, having received a friendly tap over the eye with an oak stick, decently loaded with lead—feeling very queer indeed for the next few days.

There was nothing hurried about the preparation of the shillelagh, for each cudgel was the personal pride of its wielder. Though the billy club of today, with its swagger-looking silken tassel may appear sleek and ineffectual, merely an adjunct to the uniforming of the police—defenders of our life and property—still, firmly grasped in the hands of a citizen descended from the Emerald Isle, it is an invaluable aid to the arm of the law.

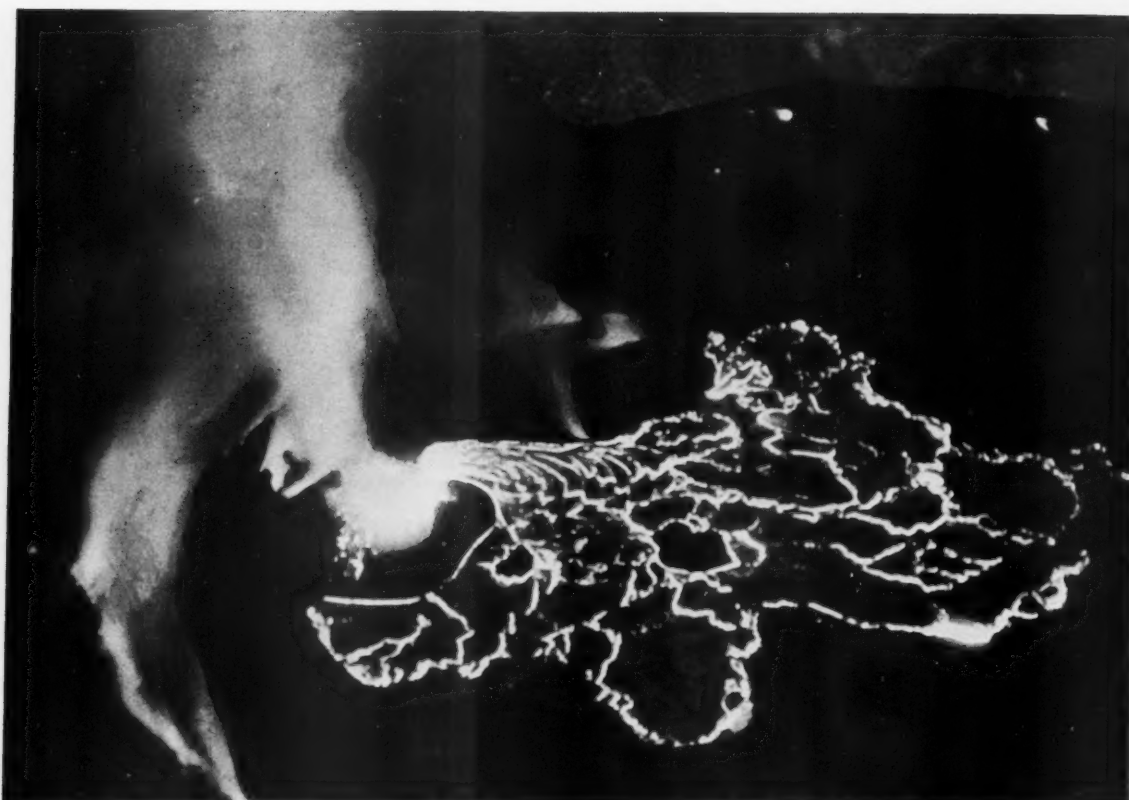
Despite their prevalence, shillelaghs were never turned out by the dozen, marketed, or assigned to a faction about to settle some dispute peaceably without going to law. They were carefully prepared and selected. In Carleton's traits and stories of Irish peasantry he says: "Real Irish cudgels must be root-growing, either oak, blackthorn, or crab-tree—although crab-tree, by the way, is apt to fly. They should not be too long—three feet and a few inches is an accommodating length. They must be naturally top-heavy, and have around the end that is to make acquaintance with the cranium three or four natural lumps, calculated to divide the flesh in the neatest manner, and to leave, if possible, the smallest taste in life of pit in the skull. But if a good root-growing kippeen be light at the fighting end, or possess not the proper number of knobs, a hole, a few inches deep, is to be bored in the

end, which must be filled with melted lead. This gives it a widow-and-orphan-making quality, a child-bereaving touch, altogether very desirable. If, however, the top splits in the boring—which, in awkward hands, is not uncommon—the defect may be remedied by putting on an iron ferrule, and driving two or three strong nails into it simply to preserve it from flying off." Carleton, also, thoroughly describes the preparation of the shillelagh. He says: "We sallied out to any place where there was an underwood of blackthorn or oak, and, having surveyed the premises with the eye of a connoisseur, we selected the straightest root-growing piece which we could find; for if not root-growing we did not consider it worth cutting, knowing from experience that a mere branch, how straight and fair soever it might look, would



An Irish shillelagh, a favorite weapon at Donnybrook Fair. A really satisfactory kippeen must be "root-growing" (that is, a sprout) oak or blackthorn, since a mere branch will not stand the stress and strain of battle. If the kippeen be light at the end, a bit of lead is introduced to add to its "persuasive" powers.

be apt to snap in the twist and tug of war. Having cut it as close to the root as possible, we then lopped off the branches, and put it up the chimney to season. When seasoned we took it down, and wrapping it in brown paper, well steeped in hog's lard or oil, we buried it in a horse dunghill, paying it a daily visit for the purpose of making it straight by doubling back the bends or angles across the knee, in a direction contrary to their natural tendency. (Continuing on page 191)



Awesome and terrifying is a night scene in the Halemaumau firepit—it is a literal lake of fire. This photograph shows the boiling lava and lava fountains during the volcanic activity of November and December, 1930.

THE LAND OF EVERLASTING FIRE

HAWAII'S NATIONAL PARK

By WALLACE R. FARRINGTON

Photographs by the Hawaiian Tourist Bureau

A HALO of romance has surrounded the volcano of Kilauea ever since the "house of everlasting fire" has been known to the human family. To the aborigines it was the home of the Goddess of Fire—*Pele*. To the scientist it is a never ending source of productive study.

To the sophisticated traveler, the searcher for rest and recreation, it is an opportunity to sit comfortably in a grandstand seat and watch the outward manifestations of earth in the making. For Kilauea to become a National Park was the fulfillment of a natural and a national destiny.

Kilauea at 4,000 feet elevation is the headliner of the Hawaii National Park. But Kilauea is not all of it. This volcanic pit, that has been the center of interest since the memory of man runs, is an incident on the side of the volcanic peak of Mauna Loa that rises to an elevation of 13,635 feet above sea level. At the top of Mauna Loa is Mokuaweo-weo, a crater vaster than Kilauea, one of the largest in the world, but reached only by trail. This volcanic mountain alone is big enough and important enough to fall naturally within the field of a National Park.

On the island of Maui, about ninety miles away, is the

massive extinct crater of Haleakala, believed in Hawaii to be the largest extinct crater in the world. It is admittedly the largest accessible extinct crater. This mountain rises 10,000 feet above the level of the sea. Scientists claim that the distance below sea level, to the plateau from which the mountain rises, is another 10,000 feet.

Standing on the rim of Haleakala, one looks down upon great cinder cones that rise 1,200 feet from the floor of the crater. One of the most effective descriptions of the size of this tremendous volcanic ash bowl is to know that it is large enough to comfortably hold all of Manhattan Island, the heart of New York City. An observer standing at the edge would look over the top of, indeed down upon the flag pole of the Chrysler Building, New York's great man-made structure. The crater is 3,000 feet deep and five miles across.

The awesomeness of this volcanic cone of lava and cinders is well visualized by the ancient Hawaiian legend. Here the God *Maui* lassooed the sun, held it captive for a time, and delayed its speed for all time. Haleakala interpreted is the "house of the sun."

So Hawaii has three famous volcanic pits, each one entitled to be a park by itself, but all combined for successful

administration under one organization. The Hawaii National Park includes them all.

The unusual scenic combinations and volcanic development from crude lava rock to fertile soil furnish new points of interest in almost endless variety. Both Mauna Loa and Haleakala rise from tropic sea and shore to heights snow-capped in the winter months. It seems to the people of Hawaii that all the forces of nature combined to make the traditionally dreaded volcano of other parts of the world a center of the civilized characteristics that go with a tamed volcano.

When Kilauea is active, the people of Hawaii run toward it to see the show, instead of away. The lava flow is of a non-explosive character and the activity is confined to the fire pit. Automobiles carry the visitor from the port of Hilo to the very brink of the active crater, traveling over thirty miles of paved highway, then comfortably through the park on a hard gravel road bordered by tree fern jungles, *ohia* forests, flowers, and shrubs that show how quickly and with what beauty nature covers the scars of volcanic outbursts. These mountains always have been show places. Kilauea, being in the line of ancient and modern traffic and always alive, was the more accessible, therefore, better known. Haleakala, more remote, rewarded only those striking out from the usual trails, upward toward the sun. One is the boiling, restless evidence of mysterious power that makes the everlasting hills melt and move in liquid fire. The other, a silent monument of quiescent majesty, is a record of explosive upheaval that turned rock into boulders, sand and dust, tinted it with myriad varieties of blue black

and bronze, and laid the whole mass in such a setting of rarified altitude, changing cloud effects, glorified by the sun and clothed in shadows of enchanting mystery on moonlight nights, that people of ancient days invented legends about the handiwork of the gods. Modern men write poetry inspired by the same ambition to express the unexpressible.

The total area of the Hawaii National Park is 245 square

miles. The Kilauea-Mauna Loa section is 219 square miles, the Haleakala unit twenty-six square miles. The principal points of interest always have been open to the public, notwithstanding a portion of the Kilauea-Mauna Loa unit and of Haleakala were included in large tracts of ranch lands privately owned. People were free to come and go, using these great properties as their own but no local move had been made for public park administration on a large scale. Years before the annexation of Hawaii by the United States, the public-spirited people of the islands had built rough trails, that later were developed into automobile roads to the crater of Kilauea and the many extinct craters that surround it,



Kilauea is called a "friendly volcano" because the lava flows in the crater are of a nonexplosive character. And also, since the volcanic activity is confined to a central fire pit 1,200 feet deep, tourists and residents run toward the volcano to see the show when there is an eruption, rather than away from it.

and are a part of the park's scenic assets. A rough rest house, established in the early days of horse trails, was gradually expanded to an hotel, "The Volcano House," at the edge of Kilauea. Civic organizations of the island of Maui had erected a rest house on the rim of the Haleakala crater. So there was a going concern for the National Park Service to take over and build upon.

Pioneer scientific exploration was begun by citizens of Hawaii who organized and still assist in keeping active the Hawaiian Volcano Research Association for the scientific

study of volcanoes and related earth movements. Many believe the volcanologists soon will be able to foretell the coming of disturbances in the earth's surface as accurately as changes in the weather.

Private enterprise, sometimes called philanthropy, had done this work of volcano research so thoroughly that a well equipped station and most valuable scientific records were available to be merged into the work and service of the United States Geological Survey that now bears a part of the financial burden taken over from the United States Weather Bureau.

Started in 1912, the Hawaiian Volcano Research Association is a whole story of scientific adventure. Private citizens of Hawaii financed the venture in cooperation with the Massachusetts Institute of Technology. An observatory was erected on the brink of Kilauea. Instruments so delicately balanced as to record the tremor of footsteps across a cement floor, tell a permanent story of movements of the earth's surface, and especially that part in the vicinity of the active craters. Now the Federal government supplies the funds for the routine work of the observatory. All other expenses are paid from funds contributed by interested citizens.

From this beginning the research study has broadened out to practically all the volcanoes of the Pacific. A brand new science has been pioneered. The records thus far made at the Kilauea Observatory make up one of the most notable volcanological libraries in existence.

Hawaii has control of and enjoys the income from its public lands under authority of laws passed by the Congress of

the United States. Therefore, the initial action of inviting federal park control and of meeting the expense of acquiring the needed private lands was with the Territory. Many thousands of privately owned acres were purchased and many thousand acres of Hawaii's public lands were voluntarily deeded over to give the National Park Service complete control of the Kilauea Crater with its surroundings of desert, dead craters and living forests, provide a strip of land for road construction from Kilauea to the top of Mauna Loa and secure the whole of the Haleakala Crater to federal administration. No one has ever estimated the cost in dollars and cents. To preserve such natural monuments to the perpetual use and service of the public is rated here as invaluable.

The act of Congress creating the Hawaii National Park was signed August 1, 1916. The work was fully completed the latter part of 1927, federal and territorial officials having cooperated most effectively. None was more interested and enthusiastic than the late Stephen T. Mather whose name and service are so indelibly stamped on the National Park system of the country.

Reconstruction of the highway from Hilo to the entrance to the Kilauea unit of the park cost the Territory of Hawaii more than \$1,000,000. On the island of Maui, the Territory has now under construction, at a cost of more than \$300,000, an extension of the main highway from the port of Kahului to the edge of the Haleakala Park area. When this road is completed next year the construction will continue under National Park appropriation, carrying the automobile road



This is the "House of the Sun"—massive Haleakala—the world's largest accessible extinct volcano crater. The mountain rises 10,000 feet above sea level. Standing on the rim, one looks down on great cinder cones rising 1,200 feet from the floor of the crater. It is one of the units of the Hawaiian National Park, on the island of Maui.



Small wonder that a halo of romance plays about this National Park of Hawaii, for it cradles mystery in its boiling lakes of everlasting fire—majesty of a living death in its magnificent extinct crater beds and irresistible lure in its miles upon miles of beautiful bypaths, shaded by luxuriant tropical verdure.

up the sides of the mountain to the edge of the crater rim.

Kilauea, the nucleus around which the larger park area developed, is quite unlike the traditional volcano pictured in the old school books—the high peaked cone, smoking. To be sure, one rides up a 4,000-foot elevation, but the road dips down near the pit. Sulphur steam from cracks alongside the road are a reminder that some volcanic action is near. Arriving at the Volcano House entrance, one looks off across the crater and down. At night when the pit is active, the glow of the lava fire against the sky appears as if some one had taken a cover off the stove.

When, at intervals of about seven or nine years, the crater of Mokuaweoweo at the top of Mauna Loa is active, a shaft of flaming light shines thousands of feet high, seen many miles at sea. It is from the sides of Mauna Loa that the great lava flows break out from time to time, spread over the country and frequently flow into the sea.

The Hawaiians had their legends of these lava flows as an expression of the wrath of the fire goddess *Pele*. There are present-day believers in *Pele*. A lava flow of recent years threatened the destruction of the cabin home of a Chinese near the main highway. He was cautioned and finally urged to leave his home lest he, as well as his home, should be overwhelmed by the moving lava. He persisted that *Pele* always had been his friend and would not desert him now.

He remained. The lava swept about his house but not over it. The little oasis in the lava is pointed out and the story told of the old Chinese who had faith in *Pele* and was protected against destruction.

Previous to an outbreak of lava or a renewal of activity in the pit of Kilauea, reports are usually in circulation that some old Hawaiian has seen *Pele* in the form of a woman walking along the road. Scientists predict lava activity by increased earth tremors or a tilting of the mountain as recorded by delicate instruments, but believers in the Goddess of Fire dream dreams and respond to intuition, and seem quite satisfied with the result.

Flowing lava is admittedly the drawing card. But one, visiting the park for days or for weeks, finds new points of interest for every new day. The old lava has left curious freaks above ground and below. The rivers of lava that have flowed down the mountain have left huge tubes extending for miles. One of these great caverns is near the road to the fire pit. The approach at either entrance is a garden spot of ferns, moss and tropical foliage. Tree molds are another freak of the lava. Great trees have been overwhelmed, but the lava cooled so quickly as to leave a perfect mold of the tree trunk in the ground.

Luxuriant tropical foliage lines the highway and screens the craters. Tree ferns are gorgeous, (Continuing on page 191)

BIRD LIFE IN



Claude C. Matlack

Although the beautiful flamingo is practically gone, and the roseate spoonbill is almost extinct, more than one hundred species of bird life are found in the great rookeries of the Florida Everglades. At the left are pictured a few of the thousands of birds on Man o'War Key.

Below: Black vultures, among the largest of the Everglades bird family.

© James E. Stanley



Another Everglades bird family of unusual interest and beauty is that of the little blue heron, shown below in their rookery deep in the jungle waterways where they gather in great numbers.



© James E. Stanley

THE EVERGLADES

© James E. Stanley

Bird life in the everglades is complex and correspondingly interesting. There are myriads of migratory birds from the North, birds of the trees and meadows, as well as all-year-round residents. None are more picturesque, however, than the wood ibis, shown in their rookery on the right.

Below: An American egret, one of the magnificent birds disappearing from the Everglades.

Claude C. Matlack



© James E. Stanley



Although almost extinct, egrets are still found in their rookeries, as pictured below. Their jungle home is an interesting sight, and so difficult to reach that few have viewed it.



© James E. Stanley



Shortleaf pine and hardwoods on a forty-six per cent slope. Though the stand has been repeatedly burned and heavily grazed, it is firmly held and there are no signs of erosion.

From Forest to Waste Land

By G. H. LENTZ

SOIL erosion is a real problem confronting many farmers and landowners in the South. Thousands of acres of hill and sloping land have been ruined through the removal of the fertile top soil by the action of sheet erosion. The gullies, which in many instances follow sheet erosion, have often completed the process of destruction. Valuable bottomland farms have in some instances been ruined by a cover of infertile sand and clay. Probably a large percentage of this erosion had its beginning sixty to sixty-five years ago when the sudden change in farming methods and farm life, caused by the Civil War, brought about the abandonment of large plantations and areas formerly in cultivation.

It is true that much of this soil waste can be laid to past practices, yet the same thing is happening today. The erosion studies of the Southern Forest Experiment Station, begun in 1929 in Mississippi where the erosion problem is as acute as that of any state in the South, have shown that little or nothing has been done to reclaim badly gullied areas

and, what is even more serious, relatively little is being done to prevent new areas from being added to the already enormous total. Timbered areas unsuitable for agriculture are still being cleared and attempts made to farm them.

Occasionally it is possible to find an eroded area where the history of development and ruin is known. Such an area, twelve acres in extent, located in the southwestern part of the state, was visited recently. It presented a striking lesson in mismanagement and ruination brought about by erosion.

This area is situated in Jefferson County, along the road from Fayette to Union Church, and is a portion of a 160-

acre farm. The land is gently rolling, and on no part of the farm do slopes with more than a twenty per cent grade occur. The soil is a silt loam underlain by sands and clay with scattered layers of gravel. Not more than twenty-four inches could really be classed as top soil fertile enough for cultivation. This soil originally supported a fine



Sheet erosion was hastened on this old cotton field by lack of proper terracing and by frequent shallow plowing which carried off most of the topsoil. The areas seen in the background have already been ruined by gullying.

stand of shortleaf pine and mixed hardwoods. The pine stand averaged better than 14,000 board feet an acre and a young stand was coming in under the mature trees wherever sufficient light was present. In 1909 the shortleaf timber was sold from the twelve-acre tract. The trees were cut, and in 1910 the area was cleared and planted to cotton. No terraces were constructed and, with the exception of crude contour plowing, no attempt was made to hold the soil in place. Shallow plowing and cultivation caused a hard crust to form four to six inches under the surface of the soil. This hindered percolation of water and tended to increase the rapidity and amount of runoff of rainfall.

In 1915, five years after the timber had been cut, this land yielded



"Shoestring" erosion, forming narrow gullies, followed the sheet erosion and hastened the speed with which the cotton field was laid waste.



The gullies have widened and have cut across the furrows, leaving areas too small to be cultivated. Such land is ruined unless control measures are used.

considerably less than half a bale of cotton to an acre. Sheet erosion had taken off much of the top soil and small "shoestring" gullies had begun to form. By 1920 these gullies had increased to such an extent that it was no longer possible to plow and cultivate the small islands of land remaining. After ten years cultivation the field was abandoned. And then no further attention was given it. The "shoestring" gullies continued to develop; they became veritable ravines, into which water from the furrows drained without being checked in any way. Erosion started in the old cotton rows, each depression was cut deeper and deeper and the elevated portions of the rows remained as "hogbacks." The field was so badly cut up that it was of little use even for

pasture. It is estimated that from ten to fifteen per cent of the surface had been cut into and had been completely ruined by gullies. The top soil had been washed from most of the remaining area. Within a period of less than twenty years most of the area was waste land—a liability rather than an asset. Heavy rains had carried away the soil; the silt probably found its way to the Homochitto River and into the Mississippi River; some of the heavier sand and gravel was deposited to a depth of several feet in the stream draining the area. After the stream channel was filled up, the sand spread over a fertile stretch of bottomland and ruined it for farming purposes.

When cultivation ceased, nature made an attempt to heal over the man-made (*Continuing on page 160*)



Cotton rows after ten years of erosion. The dark layer shows the depth of the silt loam on which broom sedge and pine are growing. The central channel is twelve feet below the former surface level and is being scoured deeper every year.



The Lake Jovita Fire Club

By W. C. McCORMICK

LAKE JOVITA is a quiet little hamlet in Florida where squirrels play around unafraid and everything speaks of quiet and peace. Even when I parked my car under a great live oak with moss-hung boughs, three squirrels frisking around its trunk appeared unmindful of my presence. Across the street an elderly man chatted with a number of small boys. From the low hills surrounding the town I caught the fragrance of orange trees in blossom. The aroma of pine was not missing. And for the moment I gave myself to a fancy that I stood at the gate of some mythical land.

Thus dreaming, the clamor of a motorcycle thundering into the street startled me as would a bolt of lightning from the sky. Its thundering climaxed in an explosion as it skidded to a stop in front of a little shop directly across the street, and my interest was immediately consumed as its rider, a boy in overalls, almost

What has been accomplished by the Southern Forestry Educational Project of The American Forestry Association and the states of Florida, Georgia, Mississippi and South Carolina? This is a question the state organizations must answer, for they follow in the wake of the Dixie Crusaders, seeing the changed attitude toward woods burning, the number of fires decrease, and the idea of simple forestry practices take root. Yet the Crusaders themselves often see the results of their words and efforts, and this incident, related by the Director of the Project, is outstanding.—Editor.

hurled himself through the doorway. In a big city, with its noise and confusion, such an incident would have gone unnoticed, but in Lake Jovita, with its picturesque setting, it meant but one thing—something was in the wind, something of tremendous importance. I hurried across the street.

But before I could satisfy my curiosity the boy dashed out of the building, followed by three others of his age, and instead of going to the motorcycle disappeared around the building.

In a moment they reappeared in an old delivery truck, arranged to carry eleven or more boys and various equipment. As it plunged over the curb and turned in the direction from which the motorcycle had come, I managed to make out the words painted on its side, "Lake Jovita Fire Club."

Fire! The fleeting glance I had told me that the Lake Jovita Fire Club was interested in one thing—woods fires. Rakes, shovels, axes and buckets were



Almost as well organized as a city fire department, the boys went about their duties—swiftly, calmly and effectively.

plainly visible as the car picked up speed and disappeared down the street. Instantly a little shiver of excitement passed through me, or perhaps it was pride, for it was just this sort of thing that we of the Southern Forestry Educational Project have been working to bring about. There was youth, enthusiasm and action directed against woods burning. Furthermore it was organized.

I followed in my car and overtook the truck just out of town. Here it stopped at a school yard where a number of boys were playing ball. Immediately the game was postponed while seven other boys joined those in the truck. Again the motor roared and they were off, with me in the wake.

Down the highway we raced, finally to turn into a dim road. In another mile we caught the first sign of fire, thin white curls of smoke pouring up from the pines ahead. The truck seemed to increase its speed and drew up to the fire with a screaming of brakes. Almost as well organized as a city fire department, the boys went about their duties—swiftly, calmly and effectively. There was no lost motion. Each one accepted his part and performed it well.

I watched the flames die down and the smoke disappear. Finally, what had promised to be a destructive fire was but a blackened spot on the edge of the green woods. Later, I learned that this was the tenth fire the Lake Jovita Fire Club had successfully suppressed in thirty days.

When I returned to the little hamlet I joined the boys in the shop. I wanted to know more about them and their club. In rapid succession I shook hands with Franz Ullrich, president of the club; Hugh Dunne, vice-president; Fred Dunne, secretary, and Bernard Therres, marshal. Then the rest of the boys, Arnold Therres, Joseph Grieshop, Peter Ullrich, Felix Ullrich, Peter Dunne, John Grieshop and Fred Viehers. And then I heard one of the most interesting stories in the annals of forest-fire prevention—a story that has made every member of the Dixie Crusaders go about his work with new enthusiasm.

In the spring of 1930, it seems, one of the Dixie Crusaders appeared at Lake Jovita. He was John Hopkins, with Florida Unit No. 5. Almost immediately the maroon truck caught the interest of the inhabitants of the little town. A great number assembled at the schoolhouse while it was being prepared for a motion-picture show, asking questions and seeking advice. That night a motion-picture program and lecture were given to more than two hundred and fifty men, women and children of the community. Among them



The Jovita Fire Club ready to defend the piney woods from fire.

were eleven boys, all over fifteen years of age, to whom the pictures and lecture carried more than entertainment. Harboring a natural devotion for the outdoors, thinking clear and living clean, they responded immediately to the opportunity to correct the mistakes of woods burning as presented by the Crusader.

The Crusader moved on but his message lived in the enthusiasm of those eleven boys. The first thing they realized was that any effort or action to eliminate woods fires must be organized. So they met immediately in the rear of a blacksmith shop where one of their number worked with his father. They discussed the things the Crusader had told them, the things the motion pictures had reflected, and the things they had read in the literature left with them. Without further delay they organized the "Lake Jovita Fire Club," elected officers and resolved to "combat the evil of woods burning that is destroying timber, range grasses, hunting and fishing as well as the beauty of the piney woods."

It was to be a social club and meetings were to be held twice a month. All of the members agreed not to use profane language. They agreed to suppress all fires in the community reported to them, working individually on small fires and in crews on large ones. They proposed to put up fire-prevention posters and aid in other ways in bringing about a changed attitude toward woods burning in their community. Too, they pledged to report to the proper officials any violations of the state forest-fire law.

They planned their work to include wild-life protection and restoration. Their program calls for the restocking of streams and lakes and a strict observance and enforcement of hunting and fishing laws.

All of this is the result of a group of farm boys hearing one lecture and seeing one motion-picture show pointing the way to forest-fire prevention and proper forest management. The lecture was given by one of the Dixie Crusaders of the Southern Forestry Educational Project of The American Forestry Association and the States of Florida, Mississippi, Georgia and South Carolina. The motion picture was *Pardners* produced by the project especially for its work in the rural districts where woods burning has been practiced for many years. The organization of the club was an outspoken desire to make Lake Jovita and its community a better place to live and work. It was an awakening by the young generation to the fact that woods burning has no place in the building of communities and good citizens.



They suppressed ten woods fires in a month. Left to right: Bernard Therres, Arnold Therres, Joseph Grieshop, Fred Dunne, Peter Ullrich, Felix Ullrich, Peter Dunne and Fred Viehers.



Fred H. Kiser

Short Lessons in Photography for the Outdoorsman

CONDUCTED BY FRED H. KISER

IT HAS not been so many years ago that man discovered that by punching a pinhole in one end of a box the light passing through the hole conveyed an exact image of some exterior object to the black interior of the box. This idea of capturing a scene undoubtedly brought about the method of monochrome registration usually called photography. For many years, however, it was called the "newer mode of printing." Even now one will hear photography referred to as a printing process.

It would be difficult to fix the date when "photographic action" was first recorded. Without a doubt the tanning of the skin by the sun's rays was suggestive, for this is as truly the effect of solar radiation as the darkening of sensitive plates, films and paper which is now used in photographic operations.

Sometime around 1780 the darkening action of sunlight on silver chloride was investigated by W. K. Scheele, and to his native country of England belongs the honor of first producing a photograph from his observations. In June, 1802, Thomas Wedgwood published in *The Journal of the Royal Institution* an account of a method of "copying paintings upon glass and of making profiles by the agency of light upon nitrate of silver." The first to develop pictures that were unaffected by light, however, was Nicephore de Niepce, around 1814. Later, Niepce and Louis Jacques Mande Daguerre cooperated in these experiments.

As a beginning they used a solvent, a transparent solution of lemon-yellow color, which was the brittle residue obtained from evaporating the oil of lavender dissolved in ether or alcohol. This solution was used for covering glass or silver plates, which, when dried, could be used in the camera. The time of exposure varied greatly. Daguerre remarked that "the time required to procure a photographic copy of a landscape is from seven to eight hours, but single monuments when lighted by the sun, or which are by themselves very bright, can be taken in about three hours."

Finally, in 1839, Daguerre and Niepce perfected the first Daguerreotype, and in 1844 Daguerre improved the method

himself by using bromine and iodine, adding greater sensitiveness. Thus, the world was given instantaneous pictures.

In 1850 the collodion process of coating plates was suggested by Le Gray. These plates had to be exposed very shortly after their preparation and while wet. In 1854 the first experiments with collodion dry plates were made by Marc Antoine Augustin Gaudin. But the honor of introducing the "alkaline developer," which perfected the system in 1862, went to Major C. Russell, an American. From that time scarcely a year has passed that one or more chapters have not been written on new processes for the improvement of photography.

To emphasize the advancement made in the processes it is only necessary to go back 139 years to the first camera—referred to then as a "sketching camera." It is just one century since the first photographic lens was made by V. and Ch. L. Chevalier, of Paris, and but eighty years back to the time when a product of the poultry farm was commonly mentioned in connection with all photographic formulas. Here is one which was in universal use at that time: "Take the whites of five fresh eggs, mix with one hundred grains of potassium iodide, twenty grains of potassium bromide, and ten grains of common salt. Beat into a froth and allow to settle for twenty-four hours. Decant off clear liquid, then pour on glass plate to be used. Sweep off excess albumen with a straight edge. Dry in an oven or before a fire. Sensitize the plate for five minutes in a bath of silver nitrate acidified with acetic acid, and expose while wet. The image is developed by gallic acid in the usual way."

Since the time of Scheele, Daguerre, Russell and Chevalier, literally thousands of formulas, processes and forms of apparatus have been created and today their manufacture, distribution and sale rank with leading industries of the world. Cameras, lenses, lens shutters, prepared plates, films and sensitive papers as used today, to say nothing of the hundreds of accessories, have revolutionized the art and practice of photography, which is now generally recognized as a key profession in human progress.

Scientists study the human body and prescribe to it by means of photographs; astronomers study the universe and picture it with the camera. Photography is a truthful recorder of history, is a part of home and family life; it is responsible for rapid and reliable transactions in business. The beauty of architecture is enhanced and improved through its use and study; the traveler with the use of the camera preserves the views that have pleased; the naturalist records the beauty and habits of wild life. In fact, in this day and age, pictures are associated with almost every line of endeavor. The public wants correct picture interpretation as never before and the one and only rendition is a good photograph.

Thus far it has been necessary to review a bit of photographic history in order that the mind may grasp the remarkable progress made. Perhaps nothing illustrates it more forcibly than the fact that the ratio of three hours to one-two hundred and fiftieth of a second measures the progress made since Daguerre.

Right now a question of great interest to professional and amateur photographers is whether or not the production of pictures is keeping abreast of the improvements created for the work. My opinion is that it is not. Better pictures are being made, of course, but not the full extent of the opportunity. When the great number of people using a camera is considered, the number of really good pictures is very small. One of the illusions contributing to the great number of inferior pictures produced today is that the photographic business appears to offer an opportunity for easy money. Presumably, it is a business that requires a small investment and is

easy to start. As a result and from a professional standpoint, this dream has brought a preponderous number of unskilled operators in the business, a barrier to the progress of all phases of photography. Many who are capable and experienced have become lax in their methods. Their greatest concern is to make money, and make it in the easiest way. Others have become panicky in the throes of competition and have resorted to bitter price slashing. They soon find out, however, that there is little to be gained and much to be sacrificed. All in all there is but one way to attain success in photography, whether professional or amateur, and two

words tell the story—better creations.

If one is young and has mapped out a career as a photographer, three years of close study and five years of practical experience is necessary for the proper conduct of a business. This is true only if the progressive elements of endeavor have been inspirational. To those who are in the business and allow discouragement to creep in at times, it is necessary to renew the fire of enthusiasm. A new urge to create must burn in their veins.

For the amateur the most essential part of photography is the enjoyment it can and does afford. In years past the amateur has been handicapped by carelessness and inefficiency in the finishing shop, but with the coming of

modern finishing equipment and experienced operators, results depend chiefly upon the camera and its use. There is to be found in every city many expert finishers and if the amateur is not patronizing one of these there is no way of fully judging results. With the amateur, however, one thing is certain—that there is too great a waste of material.



Fred H. Kiser

Janet Lake, in the Glacier National Park, in Montana, is an Eden for the photographer—both amateur and professional.

Where there is but one good picture produced from a dozen exposures, there should be no less than eight. Anyway, the present average should be raised and maintained. It can be done if the amateur will give thoughtful consideration to his or her camera.

If one plays tennis and expects some day to win a championship, the importance of practice needs no expounding. Weeks ahead one prepares for the "big game" that is to come. Time and pleasures are sacrificed; the slightest detail, even to the food one eats and the exercise one takes, receives every attention. Nor can one become a bridge player unless something is known about the rules of the game and time is devoted to practice. How different is photography!

When most Americans plan a trip, whether it be to a distant continent or to the nearest picnic grounds, one of the first things considered is a camera. There is an immediate desire to record the journey or experience in picture form. Yet, the chances are that a "snapshot" has not been made for many days, perhaps months. Even the camera is difficult to find. When at last it is located—perhaps in the basement, cached away on a shelf with empty fruit jars—the outer coating of "house-moss" is dusted off, the film put in and the "trigger" set. Everything is in readiness. When the journey or picnic is over the rolls of exposed film are rushed to the corner drug store or the nearest photographic shop for developing and printing. The whole process is carried out with little or no regard for what is being done in the "little black box" or in the finisher's trays. The "trigger" is released, the roll turned for a new exposure, and the miracle is left to the mechanics of the camera. Often time is not taken to properly level the camera, and certainly the matter of accurate focusing is not even thought of. The proper consideration of light and composition can be hardly expected under such circumstances.

Yet when the pictures are returned from the drug store there is usually disappointment. Many "blanks" are evident, other pictures are hazy, light-struck, underexposed, or overexposed. Right away the camera is blamed, or the finisher. In fact, you blame everybody and everything—that is, everybody but yourself.

If one expects to find real enjoyment in photography one must be able to take good pictures. This means that a few fundamentals must be known, that the camera must be used regularly. Practice in the back yard if necessary, but use it.

Following are a few simple but important suggestions which, if mastered through practice, will give the amateur better pictures and eliminate the bitterness of disappointment.

1. Practice with your camera. Train it on different subjects about town. Make an exposure every few days.

2. Be particular in holding your kodak level. True the vertical and horizontal lines of the setting with those of your finder. If your finder has not been cross-lined, have it done at once. You cannot go wrong, of course, if you are using a level.

3. For every exposure make a complete written record of light conditions, whether strong sun, weak sun, or cloudy. Also record the direction in which you are shooting.

4. Make a notation of the date and time of day when making the exposure, and be sure to number your records to correspond with the films on the roll—from 1 to 6, or from 1 to 10, depending on the length of the rolls you are using.

5. Note the stop number—W. O. (wide open), 8, 16, 32, 64—also the time of exposure as indicated by your shutter markings 1/5, 1/10, 1/25, 1/50, 1/100 of a second.

6. Never attempt an exposure under 1/25 of a second unless you place the kodak on a solid foundation, or use a tripod. Some people have fairly good luck in making exposures at 1/10 of a second from the hand, but it is mighty risky business.

7. Never "shoot" into the sun. You can make exposures "against the light," of course, providing the direct rays of the sun do not

strike any portion of the lens or lens rim, but not until you have had a great deal of experience would I advise making exposures directly "against the light."

8. In loading your camera, be very careful that the film does not loosen on the spool. On removing the spool take up every particle of slack so as to make a tight roll. Change rolls in a shadow, even though it is necessary to make one yourself. There is more film wasted by "fog" along the edges of the film than any other cause. Unless a spool of film is rolled perfectly tight, the light filters in at the ends of the rolls and spreads destruction.

9. Instruct your finisher to "develop only" and deliver to you in strip form. Do not have your films cut up. In this way you can best check the negatives with your records.

10. Learn to judge the quality of your negatives. Turn back to the finisher for printing only those you are positive will bring good pictures. It will be surprising to know how quickly you can become educated to "negative quality."

Remember, the most important thing of all is to check the quality and general appearance of your negative with the corresponding written record prepared at the time of exposure. In this way you are learning certain causes and effects, whether good or bad. You will profit by the mistakes. Too, you will be making more and better pictures, at the same time calling a halt to the reckless waste of photographic material.

PREDESTINATION

I know two oak trees wedded at the root,
 Predestined to be lovers from the day
 Two acorns dropped to earth, and, in the way
 Ordained, sent each to each a timorous root
 That clasped like hands together: now the rain
 And sun they share in common; when the storm
 Lashes and drives, they sway, a single form
 Beneath the onslaught; of remembered pain
 And bygone joys they whisper through the night,
 And tell their hopes, and croon their lullabies;
 Mingle their leaves in autumn till the dyes
 Of red and gold make each one's robe more bright;
 And when December taunts them, and the years
 Lie heavy on them, all their beauty gone
 And pride of living, they stand not alone
 But link gaunt arms and ease each other's fears.

—Isabel Forner Weddon





LONG before the turn of the seventeenth century, adventurous spirits had pushed beyond the region of the tidewater into what was termed the "back country," and there were among them those who knew the value of the gift of trees. One of these was Mark Catesby, a horticulturist, who made his first voyage about 1720 and who left a record of his discoveries in his *Hortus Britanno-Americanus*.

"It will be easily imagined," he wrote, "that a forest of 1,000 miles in length, extending twenty degrees in latitude from north to south must afford a plentiful variety of trees and shrubs that may be usefully employed to enrich and adorn our [England's] woods by their valuable timber and delightful shade; or to embellish and perfume our gardens with the elegance of their appearance and the fragrancy of their odours; in both which respects they greatly excel our home productions of the like kind. But however obvious this may now [1749] be, very little regard was had thereto at our first settling in those countries; nor indeed was any considerable step taken towards introducing these strangers into England till about the year 1720, since which time, and through the laudable application of a few persons only, many kinds of American plants and particularly of forest trees and shrubs, have been procured and raised from thence."

The foregoing would seem to prove that the few who looked upon trees as a beneficent gift served only as

Forbidden, under penalty of death, to go beyond the shade of a great oak tree, a white woman is held prisoner by the Anacostan Chief, Manacasset. This and stories of other famous old trees of Washington, which undoubtedly has more old and historic trees than any city in America, is presented in this article, the third of a series of four which began in the January issue.—Editor.

Save a tree! Preposterous! Why, the woods were full of them. It was their land, anyway, and, if they desired to clear it of trees, it was strictly their own affair. And they usually did.

A few escaped. One is a white oak, *Quercus alba*, on a hill at the foot of which for untold centuries Indians had buried their dead and, later, white men came to bury their dead and to call it Holmead's Burying Ground. It was out at the end of the city, beyond Florida Avenue, which was the Boundary Street of the original four-miles-square laid out by L'Enfant. This tree, until 1890, when a terrific storm broke several of the branches, had retained its entire original growth intact, and shadowed fully a quarter of an acre. The bark of the main stem is deeply ridged, white on the south side and dark on its northern exposure. Its least circumference, eighteen feet, is found at a height of five feet; its greatest, twenty feet, at a height of ten feet from the base; for, at the five-foot height, it had conceived an idea which, at ten feet, merged into reality in two ten-foot trunks, each of these again dividing in the steady upward climb and forming four tall trees, with lesser branches at balanced points sent out



This great old tree citizen is known as the "Glebe Oak" because it stands in Rock Creek Cemetery on ground comprising part of the first glebe in America.

from these and the parent trees. The result is a symmetry and sweeping grace associated with the elm. Small wonder it was called the "Treaty Oak," and doubtless was the silent witness of many powwows. One story linked with it has gained enough credence to be related. Stripped of its rococo embellishments, the tale is this:

The Anacostan chief Manacasset had his peaceful abode under this tree, to which he returned from his marauding expeditions. From this height he had a clear view of the surrounding country, of the basin of the Potomac River, and once he and his warriors surprised a company of emigrants on the river. Among them was a man named Noyes, and his golden-haired wife and their two children, one a baby girl in arms. At the sight of the redskins, Mrs. Noyes swooned and she and her babe were borne unhurt to a hut under the oak. She learned next morning that the rest of the party had been scalped in the night, she having been spared to become squaw to the chief. Upon hearing her scornful refusal, the chief is said to have replied, "You do not choose to be mysquaw? I then choose to keep you a prisoner, and henceforth you shall not, under pain of death, wander beyond the shade of this oak which overspreads the hut!"

So she became a quasi-prisoner, with only two Indian women to attend her. The Indian children shunned the little white girl, Gwawa, or Hope, and she had only one playmate, a white captive boy named Tschagarag, or Skyiness, by the Indians for his fair hair and blue eyes, and sunny disposition. Eleven years passed and the chief was one day mortally wounded and died in a small skirmish near the site of the present Mall. Upon his death a treaty was made with the white men beneath the oak, and Mrs. Noyes was the interpreter. By this treaty the few remaining Indians were to leave the vicinity and move westward. The young man, Tschagarag, followed the Indians, but Mrs. Noyes and Gwawa could not be induced to leave the tree. Therefore, the friendly whites built her a little house on the hill within the shadow of the great tree. Tschagarag, meanwhile, had met a white trader on the Ohio River with whom he returned to New York City, there to receive an education as an architect, and, finally, as David Nourse, he returned to the Federal City to help with the plans for the new government buildings. He and Gwawa married, and

Mrs. Noyes, two years later, died, leaving a will beneath her pillow which read:

"I, Magdalena Noyes, bequeath to my daughter, Gwawa, and her husband, Tschagarag, all my property, consisting of seventeen and one-half acres of land, the house I live in being the center thereof; also the house and all therein contained, furniture and personal effects, belonging to me. And if contentment, the germ of happiness, be transferable, may you receive and enjoy it through life.

"I have also three requests, which I beg you to fulfill. The first is to retain our colored servant and provide amply for him in his old age; the second, to bury me in the cemetery at the base of the hill on which stands our dwelling; and, third, is to regard the oak which overspreads our cottage as a sacred relic; cherish it through life as the talisman of a resigned sufferer. And should you be blessed with offspring, instill them with that reverence for the tree as will transmit from generation to generation. These fulfilled, accept my thanks and consider the little I give you, dear children, as the Widow's Mite to her posterity."

Such a will may have been and doubtless was made, but the year of its execution, 1800, is a long time away from 1664, the first recorded mention of the Widow's Mite. Then it comprised 600 acres and lay to the northward from the Naval Medical School Hospital. At that time also it was transferred to a John Langworth, a circumstance pointing to previous ownership by white persons.

Further, by the year of 1751, when Georgetown, then George Town, was formally laid out, the "Anacostan Indians had disappeared from its vicinity,

for no mention of them is to be found in its annals." In fact, the entire District was parceled into holdings even before the eighteenth century. A tract that included what was afterwards known as Jenkins Hill, in Duddington's Pasture, the present site of the Capitol, was conveyed to George Thompson by Lord Baltimore in 1683. The new headquarters of the National Woman's Party occupies the house that was built by one Lord Baltimore for a daughter upon her marriage. On the other side of the District, a portion of "The Vineyard," which was patented to William Hutchinson in 1696, was, together with a part of the Widow's Mite, merged in a tract called "Mexico," owned by Robert Peter, who was described as "a leading merchant of Georgetown,



Known as the "Treaty Oak" this magnificent tree has a fascinating history, wrapped closely about Washington's earliest days. It stood on a commanding height and Manacasset, the Anacostan Indian chief—so historic legend runs—had his peaceful abode beneath it, where he could command a clear view of all the surrounding country.

whose holdings extended along Rock Creek and the Potomac." Then, in 1784, "Benjamin Stoddert and James M. Lingan, merchants of Georgetown, acquired a portion of the Widow's Mite." Lingan's holding was the "land in the vicinity of Dupont Circle."

All of which, despite the authoritative ring of the tale, would appear to prove the Widow's Mite a variable quantity with Indians factoring in the minus. It is certain that the will, as quoted, makes no mention of Indians, nor does the lady, although a resigned sufferer, refer to herself as a prisoner.

The issue lies, after all, not in the story, but in the actual presence of the tree itself at the present time. It is probably not a hybrid, although its size and shape would seem to indicate one. The only other larger tree the writer has heard of is one on Sheriff Road, about six miles out from the northeastern part of the District, which has a circumference of twenty-three feet.

A white oak of similar aspect but much better state of preservation is that just off Bladensburg Road and inside the District Line at Fort Lincoln. The land from which it draws its sustenance was owned by the Veitch family through five generations, since 1650, in fact. A grandfather and a great uncle of one of the present holders of the property were in that little company that essayed to keep the British from marching into the city in 1814, and a John Veitch, who held the farm during the Civil War, has left a record of the visit of President Lincoln to the fortifications a hundred yards distant from the tree. Is it too much to assume that Lincoln, an observant woodsman and a lover of nature, marked the tall and majestic oak tree, and that he drank from the spring beneath it? The spring house, less than ten feet from the tree, and below it, is still there, the grooves for the pans still level with water from the spring; and, but little more than twenty-five feet from the door of the spring house, begin the breastworks of Fort Lincoln, with three of the depressions for the cannon intact. Until three years ago, the farmhouse itself was intact and stood directly above the tree about 100 yards away at the top of the hill.

A generous fifteen feet at its least circumference, the tree has five or six main limbs, one so large that it is as if the

trunk itself had decided to change its course, and from these go about twenty lesser branches. Seen from the upper side of the hill, it would not be guessed that a great showing of massive roots grasped the lower side of the hill and held the tree upright over a quiet, unfailing spring of pure, cold water. Coming upon it unexpectedly, one suddenly believes in Irish fairy tales, and the little green door, set in a hol-

lowed place under the roots, is a magic one which you wait to open until you have reaffirmed your faith in the little folk who live inside. Having done this, you reach forth and open the door to the secret of the growth of the tree and to its charm.

A fine specimen of white oak on Ridge Road at the lower end of Battery Parrot was preserved by the timely intervention of the late Water Brown, of Lovell Crest. Telephone linemen were going through there with their wires and came to this tree, which they prepared to slice off to half its width for use as a telephone pole. Mr. Brown went to them and protested but found them determined to go ahead with their plan. He then begged them to hold off until he could go into town to see the officials of their company. So eloquently did he plead with them that the men agreed to wait until he should return. The result was a space cut for the wires on the side of the trunk between the branches that did not imperil the life nor mar the appearance of the tree, which is eleven feet in circumference. It is on the



At Fort Lincoln, marking the site of the Battle of Bladensburg in 1814, stands this great white oak. Peaceful today is the gentle slope, with its walled-up wellhouse, where the troops of the city of Washington sought to repulse the British.

property which has but now been purchased for a private residence, thus preventing the inclusion of the battery and breastworks of Battery Parrot in the circle of Civil War fortifications, as had been planned.

Larger white oaks are found than this one in the District, however. In Montrose Park are a number of them, the ones of greatest circumference being one of fourteen feet, and another of twelve feet. At Arlington Cemetery one on the circular drive in front of the house measures fourteen feet, and another, thirteen feet, is close to the cross erected in memory of Charles Greene Sawtelle. A white oak in front of the monument in memory of Rear Admiral Wilkes, the discoverer of the Antarctic Continent in 1840, is twelve feet, and there are innumerable others of ten, nine, and eight feet in the cemetery. There is a white oak at Tudor Place,

in Georgetown, that is twelve feet in circumference, and a house on Nebraska Avenue is built in an ell, with a twelve-foot white oak in the center of the lawn which is canopied by the fully seventy-five-foot spread of the limbs of the tree. A brick wall protects the third side of the lawn but the front is open to the road. Historic Woodley, now the home of Secretary of War Stimson, is made impressive by the presence of nine white oak trees marching in stately stride across the front, facing Cathedral Avenue.

Three chestnut oaks were discovered. The first in the rear of the large apartment house on Q Street has a seat built around its circumference of fifteen feet, and the fortunate occupants of these apartments may sit there under a shade that is cast by a spread of nearly one hundred feet. The second tree is on the corner of Thirty-second and R Street and is fourteen feet in circumference, while the third chestnut oak is a fine example of its kind, also fourteen feet in girth, on the lawn at Woodley.

Of the black oak group, the red oak on the upper side of the circular drive facing the river at Arlington is the largest, sixteen feet, and is near the slab over the grave of that eminent surgeon, General Gorgas, who was chief sanitary officer during the building of the Panama Canal and made the Canal Zone safe from disease. A black oak on the old Blount property, now belonging to the Honorable Robert Woods Bliss, has a measurement of sixteen feet. It stands beside the spot where Columbus Alexander built his house in early Georgetown history. A Spanish or southern red oak on the driveway of the Medical School of Howard University is fourteen feet, and, nearby, are three willow oaks ranging from ten to eleven feet in circumference, and all of them rising thirty feet without a branch. The finest trees that remained in the District were in this locality, originally the farm of General O. O. Howard. Seldom can the age of trees be definitely established, but there are two black oak trees, one eleven feet and the other twelve feet high on the hills at St. Elizabeths Hospital, Anacostia, that are definitely known to be from 175 years to 200 years old.

At the entrance to Rock Creek Cemetery is the Glebe Oak beside Rock Creek Church. It is a white oak of fourteen feet circumference, but the limbs have become so tremendous in length that three of them hang from the height of ten feet to the roadside with their weight. The original Glebe was a gift of "1,000 pounds of tobacco and 100 acres of land for the then minister and his successors, and with that intent forever." The gift was made in 1719 by one "John Bradford, Gentleman," of Prince Georges County, Maryland. A chapel was reared beside the tree and, in 1726, became the parish church of Prince Georges parish, replaced in later years by the present edifice.

A deplorable situation has developed beneath the Glebe Oak. Almost from the beginning of its history in the glebe burials have been made around the church and under the roots of the tree. It is said that the founders of Georgetown are buried there. This custom was well enough for a small community, but the growth of the population brought always more of those who patently yearned to live again in the tree, or, perhaps, had the thought that public sentiment would be certain to spare such a tree from the ax, and their bones would, consequently, lie undisturbed. But now the roots themselves have been cut back to accommodate the increase in burials under the tree. This, added to the pressure occasioned by the monuments erected there, is endangering the very life of the tree. One monument, a bronze of a man and a woman, contributes heavily to this end, and frustrates the very aim upon which the mind was set. Little old human nature again clinging to the obvious and the known. During the life of the rector, the reverend James Buck, an agreement was reached that no more lots were to be sold under the tree. Unfortunately, after his death this agreement was not adhered to, for lots have been sold since then and burials have been and continue to be made down to the present. (Miss Borah will conclude this series on the Old Trees of Washington in the April number.)

FROM FOREST TO WASTE LAND

(Continued from page 151)

scars. Shortleaf pine seeded in from adjoining stands and became well established on the scattered patches of top soil. These trees protect the areas on which they stand, but cover only a small portion of the whole twelve acres.

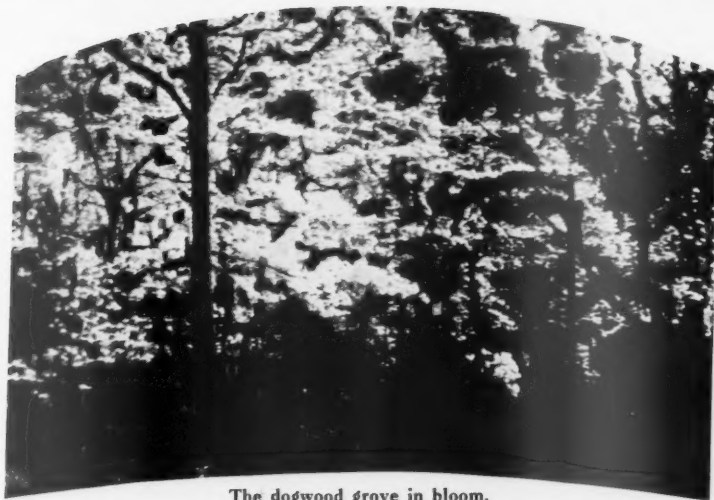
One would naturally expect the owner of such land to draw a lesson from this example and to hesitate following the same procedure on a similar area. Such is not the case, however, for on an adjoining area the same treatment is being followed. Three acres immediately to the west of the twelve-acre tract were cleared in the spring of 1930, a stand of shortleaf pine and mixed hardwoods about sixty years of age having been sold and cut from this land in the fall of 1929. More than 38,000 board feet of pine were taken out, leaving only a few inferior hardwoods on the three acres. The farmer received \$190 for the timber. In the late winter and spring of 1930 he "deadened" the larger hardwoods which remained and cleared the area, burning all the slash from the logging operation as well as the brush he had cut. Following this preparation, he plowed in the usual shallow fashion, laid out his rows and planted cotton. Again no terraces were built, no drainage ditches were laid out. Within a year or two the thin film of top soil will begin to melt away and there will be another abandoned field.

A twenty-year cycle from forest to "bad lands" presents a challenge to those interested in farm and forestry problems in the South. Is it worth trying to farm lands of this type? Would terracing be justified and on such lands would it be financially practicable? Would it not perhaps be better

to protect and care for the forest growth on such land and protect the soil by raising forest crops, rather than to raise crops requiring open cultivation which invite erosion and land waste? Should not such areas be taken permanently out of agriculture by making of them public forests, not only because of their questionable agricultural status, but also because of their positive influence on stream behavior? These are questions the forester and the agricultural economist must answer.

Brush dams are built across the gullies in the late fall or early winter. The rims or banks of the gullies are broken down by plowing and the loosened soil is pushed over the edge; some of this soil lodges along the slope and some is caught and held by the dams. The following spring, black locust is planted about five and a half feet apart wherever sufficient top soil is available. Bermuda grass can also be used to hold the soil which collects behind the brush dams.

The locust develops a widespread root system which tends to hold the soil in place and keep it from eroding. Grass soon comes in under the locust cover and provides good forage, but the locust must be protected from grazing for the first five years. Aside from checking erosion, the black locust will produce fenceposts in from ten to twelve years' time. This is a control measure that may change loss to profit for the farmer, and some such measure is necessary if the filling of stream valleys and the silting of the Mississippi and its tributaries are to be materially lessened.



The dogwood grove in bloom.

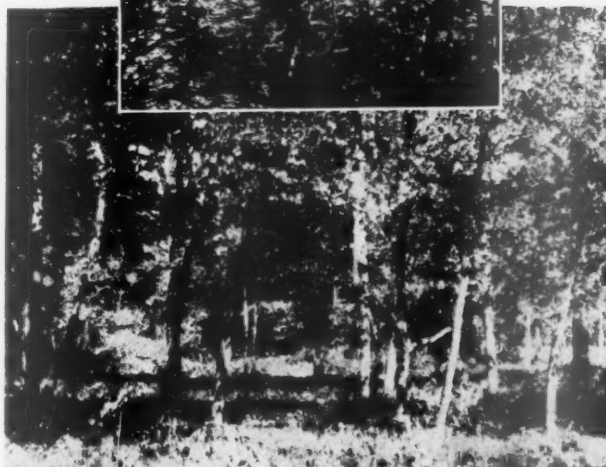
An Amateur Reforests

By GEORGE L. ROHDENBURG

NOT everyone has the desire to reforest large tracts of land. Not many have the opportunity. But undoubtedly there are a great number of people with both the desire and opportunity to reforest small areas. I am of this class.

My problem concerned six acres of land at the eastern end of Long Island in New York. These six acres were unique in that mine was the third change of name in the title since the original grant of the Indians; in that the land must have been cleared, if at all, several hundred years ago, as it was an impenetrable jungle of vines. I had succeeded in blazing a trail through the tangled undergrowth which reached to the very tree tops, and which, in the summer, made it impossible to tell which trees were alive and which were dead.

Late in November, when the leaves had fallen, I had the vines cut out around each tree. Then a fire squad of ten men was organized and armed with brooms covered with thick layers of wet burlap. The entire



A vista in our woodland—the joy of planning and planting realized in a miniature forest.

Above: The tangle of vines and brambles choking our woods before we started clearing.

tract was burned over in three-foot widths, the burning being easily directed. There was no damage to the standing timber. Subsequently I found that this might have been more easily accomplished with kerosene forest torches, but then I was green.

When spring was well established the following year but before the underbrush had much growth, every dead tree was circled with white paint. The dead vines were permitted to hang in both dead and living trees because of the great amount of labor in removing them. Wind and decay were trusted to rid most of the trees of these encumbrances, and this trust was not misplaced, although it was three years before most of them had fallen. That summer I cleared out all of the dead trees, cutting them to within about six inches of the ground. The land was chiefly sand, and I did not want to destroy the root systems which prevented the sand from drifting.

Having cleaned out most of the debris I found myself the owner of red, pin and black oak, pig hickory, wild cherry, red cedar, beach plum, wild

apple, sour cherry, sassafras and dogwood. The jungle character of the original growth rendered it impossible for any tree to become a "wolf," and I found that the timber consisted of fairly straight sticks with compact crowns. One black oak was about ninety feet high, with no branches for the first fifty feet of its length. Even plants ordinarily considered as bushes had assumed tree characters. A bay tree reached thirty-five feet, to me a record. The vines beggared description. Poison ivy vines with 115 rings in one instance and ninety-two rings in another were encountered.

The older vine was fourteen inches thick, ten feet from the ground. I also found twenty-five dogwood trees, which had in most instances reached an unusual trunk diameter of nearly eighteen inches, six feet from the ground. These also had good crowns. Even the despised beach plum had become a tree with a good crown. The dead timber was sold and almost paid for the clearing.

The land cleared, the next questions were those of reforestation and protecting the high bank from erosion. The 200 trees still standing gave me a good indication of what to plant, but by this time I realized there were wiser heads than mine in the business of reforestation. Therefore I applied to the Conservation Commission of the State of New York for help and guidance, and received not only guidance but 5,000 red pine seedling trees at a cost of only five dollars.

In theory, I had laid out the land in squares of five feet. When the trees came a gang of three men were assigned to planting. The first of the gang had a round stick two inches in diameter and five feet in length. Six inches from the bottom of the stick was a row of round-headed brass tacks. He walked along laying off the distance with the stick, then using the pointed end to make a hole to the required depth of six inches. After him came the second member of the gang whose job it was to drop a pine seedling in each hole. The third man walked behind and packed the ground around the seedling with his feet. In two days the 5,000 young trees were planted. Considering the large amount of standing timber this made a rather close planting, but I figured on a tree mortality to thin out, and within five years found that I had been correct.

That summer many seedling oak, hickory, cedar

and dogwood were discovered. The best of these were transplanted to a small nursery, even though July cannot be considered the best month for such work. Water was plentiful

and I lost surprisingly few.

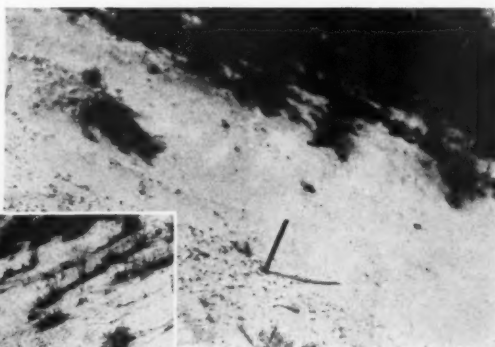
Of the mature trees many had dead branches. Diplomatically speaking, increasing years and waist line rendered it inadvisable for me to do the climbing; but all things come to him who waits, and this time it was a fifteen-year-old nephew. With suitable belts and saws the work was accomplished in two summers. The bait that caught the young forester was a vacation

of two months, with three hours work daily, a swim every day, and a cash payment at the end of the summer. A tree surgeon would have been more ideal for the job, but the pocketbook had to be considered.

Two pests developed. The first was that young shoots kept developing from the stumps of beach plum and wild cherry which had been cut down because the upper portions of the trees were in poor condition. I did not care to uproot the stumps for reasons already stated, so killed them by boring several holes six inches deep into the stump and filling them with calcium chloride. The worst pests were the vines, especially poison ivy. Roots were pulled out by the hundreds of yards. Since all of the recommended methods had been tried and failed, I was convinced that there were no other means of ridding the ground of this pest. Had I been more experienced I would (Continuing on page 188)



In the cedar grove, after our work of clearing was pretty well accomplished—the trees stripped of choking vines and straggling, dead limbs.



The naked bank as we found it—rapidly eroding.



Then, three years later, when the baby pines, sedge grass and heather we planted had taken firm hold of the sliding earth.



EDITORIALS

Forest Recreation

RECOGNITION of the recreational wealth and opportunities in the National Forests is quite appropriately being asked of Congress through a bill introduced by Representative Haugen in the House. If passed, the measure will clearly define the authority of the Secretary of Agriculture to develop and make available for public use and enjoyment the recreational, educational, and related fields of the National Forests so far as may be compatible with the purposes for which they were created and with the proper conservation of their scenic and wild life resources.

There is probably no more important problem confronting the Forest Service in its administration of the National Forests than that of coordinated use and development of recreational resources. Less progress has been made in this direction than in any other important phase of forest use. For years foresters have argued whether or not recreation has anything to do with forestry. For years Congress has looked upon recreation on the National Forests with askance and even hostility, denying the Forest Service both support and funds for constructive handling of the resource. In the meantime the American public has discovered for itself that these forests, belonging to the public and open to the public, are rich in recreational opportunities of the first order. The Forest Service today must of necessity be host to over thirty million visitors annually. This is a tenfold increase in visitors during the past twelve years.

Failure of Congress to recognize the recreation values inherent in the National Forests and to supply funds sufficient

to enable the Forest Service properly to develop these assets or even to handle the growing millions that are flocking to the forests in vacation time, has created a situation that must be speedily met; otherwise balanced use and protection of National Forest resources sooner or later may be seriously embarrassed. Furthermore, the millions who want to use the National Forests for their camping, hiking, hunting, and fishing outings are entitled to as much consideration as those who want to use the economic forest values. Recreation must be adequately coordinated with other forest activities in an orderly and constructive way. The problem cannot be solved by the present policy of Congress of largely ignoring it. It demands study and the development of a comprehensive plan that will give recreation its proper economic and social position in the forest system.

Time was when foresters and the general public looked upon National Forests pretty much as tree factories. All this has changed. Year by year the diverse resources of the forests have been standing out clearer and clearer. The primary value and purpose, of course, is for trees and water conservation, but along with these have emerged range, wild life, and recreation values. In making the Forest Service the manager of these great public properties, Congress has placed upon it an obligation to make the diversified resources contribute in the highest possible way to the life and people of the nation. This the Forest Service can do only with Congressional support of a program of coordinated use that gives due recognition and development to all resources.

Who Steals Our Soil?

THE proposal to add \$100,000 to the budget of the Department of Agriculture for an expansion of the Department's work in studying soil erosion and in planning ways and means of checking it is timely recognition of a growing menace to American life. If the accumulated effects of soil erosion could be marshalled upon one field, the spectacle would dwarf in point of destructive magnitude the Mississippi flood of 1927 and any other catastrophe that has ever befallen our land. When we permit agents of destruction to wreck and steal our soil, we are permitting ourselves to be robbed of the sustenance of life itself, and yet soil vandalism is in the saddle throughout the country, wrecking fertile fields, dispossessing farmers of their homes and lands, despoiling streams, silting up reservoirs con-

structed at great expense, and in numberless other ways tearing down the foundations of our basic institutions.

Mr. H. H. Bennett of the Bureau of Soils is authority for the statement that over 20,000,000 acres of land in the United States have been ruined by erosion. Carlos Bates, after twenty years study of the subject, declares that soil vandalism is the greatest economic problem facing the conservation forces of this country today. From the standpoint of agriculture alone, \$200,000,000 can be charged up as a direct, tangible annual loss to the farmers of the nation as a result of unrestrained erosion, according to the Department of Agriculture. Specific examples of what is taking place may well cause alarm. In a single county in South Carolina, 90,000 acres of land formerly cultivated have been

permanently ruined by erosion. According to a recent survey, Oklahoma has lost by erosion a million and a quarter acres of its sixteen million acres of crop land, and annual depletion is at the rate of 250,000 acres. In seventeen years, the Roosevelt Irrigation Reservoir in Arizona has lost over six per cent of its total capacity due to silting.

During the past decade or more, the Department of Agriculture through its Bureaus of Chemistry and Soils, Public Roads, and Forest Service has been conducting small scale studies of erosion, but the funds at its disposal have been pitifully small compared to the importance and seriousness of the situation. As a matter of fact, the work has not been recognized by specific appropriations until very recently, and the total amount made available for the current year is only \$185,000. The appropriation bill for the Department of Agriculture, now pending in Congress, when reported to the Senate increased the erosion item to \$280,000. Senator Hiram Johnson, of California, offered from the floor of the Senate an amendment to add \$100,000, making a total available of \$380,000. This increase should be approved. The only possible objection that could be raised against it is that it is too small.

The seriousness of the situation ought to arouse public action on a large scale. Soil erosion steals not only soil fertility and permanence, but the purity of our streams, the security of our municipal and irrigation reservoirs, the prosperity of agriculture, the fish life of our streams and rivers, the investments in our highways, and even the beauty and recreational opportunities of our countryside. It is a problem of state, interstate, and national complexity involving the forces of forest destruction, wide-spread burning of plant life, wholesale clearing and tillage of marginal

lands, and improper methods of cultivation. The time has come when the states and the Federal Government must join hands in planning and making real war against the agents of erosion.

As this issue of AMERICAN FORESTS goes to press, the need just expressed has taken timely form. Representative Ketcham, of Michigan, on February 6, introduced in Congress a bill designed to greatly enlarge the Federal Government's activities in protecting the states and nation against the soil-erosion evil. His plan is based upon a cooperative effort by the Federal Government and states. Briefly, the bill would authorize Congress to appropriate \$5,000,000 annually to enable the Secretary of Agriculture to cooperate with owners of agricultural land in conserving soil moisture and in preventing soil erosion. The broad purpose of the bill is to bring about methods of land tillage and land management that will best promote soil and water conservation and indirectly will protect and preserve the waters and the fish life of our streams. Expenditures by the Federal Government, excepting for preliminary investigations and demonstrations, would be allocated to the states on the basis of expenditures made by them for the same purpose and under the supervision of the Department of Agriculture. Under this provision, the Government could, and doubtless would, match the expenditures made by the states.

Mr. Ketcham's bill is based upon the cooperative principle now in operation under the Clarke-McNary Act whereby the Federal Government and states are with signal success pooling resources in a nation-wide fight against forest fires. Soil erosion and forest fire are twin enemies and if cooperative war is the best medicine for one, it ought to be the best medicine for the other.

Mr. Legge Sees Trees

CHAIRMAN LEGGE'S confidence in the future of American agriculture as expressed in his article published elsewhere in this issue, is a refreshing optimism that should serve to revive the hopes of those who have country life at heart. Coming from a man who is as close to the farm situation as is the Chairman of the Federal Farm Board, his faith in maintaining the individual independence of life in the country is especially encouraging. When it is remembered that ninety-nine per cent of the land surface of the United States is outside cities and towns, the maintenance of a country life that offers independence and a good standard of living seems to us one of the most important social and economic problems of the day.

The picture presented by those who hold that individual farm ownership is largely doomed and that the hope of American agriculture lies in the industrialization of country life is a forbidding prospect and one that in the light of present social unrest may well challenge the best thought of the country. Our people need contact with the soil, not as industrial workers but as home owners whose hunger for food, beauty and the better things of life can be satisfied through their own independent efforts. As Chairman Legge well points out, the nation's best protection in the past against the isms originating in other countries and in some of our own overcrowded industrial cities has been the rural home life of the individual. That the program of the Federal Farm Board is based upon maintenance of individual opportunity and independence in country life and that under this program the turning point in the crumbling of that great institution has been reached, according to the Chairman, should give confidence and support to the government's effort to save the system of agriculture upon which our country has been built.

It is gratifying to note the appreciation which Chairman Legge and his board hold for the place of trees and forests in the farm unit and in country life in general. Recognition is given not only to the economic but also to the social and spiritual values in the farm woodlands. Trees not only supplement farm income but they add beauty, pleasure, and comfort to farm life and pride to farm ownership. They are a protection to crop lands against drying winds and soil erosion. As many a farmer has discovered during the past year, trees are a crop not seriously affected by extended droughts and about the only one that can be carried indefinitely as a reserve to be realized upon when annual crops fail. Here they serve economically the highest utilization of marginal farm lands. As an attribute of family and community life in the country, woodlands are of equal importance to play grounds in the crowded city. It is the woods that the farm boy seeks for hunting and other adventure, and it is in the woods where the wild flowers and bird and animal life are most plentiful. In short, woodlands when properly managed bring added income, protection, and welfare to the farm unit and at the same time beauty and nature into the farm home.

In the crowded cities throughout our country, many millions of people are longing for a home in the country. Theirs is not a hope or quest for gold but rather an opportunity to make a comfortable and independent living for themselves and their families. In the country are many millions more who want to remain there. If the Federal Farm Board can bring these people and the soil and the trees together under a rejuvenated and lasting system of home ownership, it will have made an incalculable contribution to American welfare.

A FOREST PAGE FOR BOYS AND GIRLS

Conducted by
WAKELIN MCNEEL

IF A TREE popularity vote were ever taken it would be safe to predict that the sugar maple, *Acer saccharum*, would carry the election. It has beauty, many kinds of utility, and has played a wholesome part in country life since the pioneer days. Today there are few if any more magical words to the country boy and girl than "tapping the sugar bush."

Making maple sugar is an American enterprise. The early explorers found the Indians making sugar from the sap of maple trees. Their crude methods produced an ill-tasting product, so the records relate, but the white settlers soon improved upon the methods, and for many years maple sugar was the only kind used by the settlers in many parts of our country. Even with all this experience in tapping trees and gathering sap, just what takes place within the tree is still a mystery. But some things are known quite definitely.

For instance, it is known that starch is manufactured and stored up within the tree during the growing season. The storage places are the cells in the sapwood and medullary rays. Every boy and girl knows that the leaves are the starch factories. When there has been a good growing season, much starch is produced and stored. A good growing season is followed the next spring by a good flow of sap, with favorable weather. A tree that has been defoliated by insects cannot store up enough starch to yield generously the next spring. It stands

then that the flow of sap is proportionate to the amount of crown cover.

When the south winds in March put a marblelike crust on the snowdrifts, this starch is converted into tree food, or sugar. The sweetened sap is conveyed up and down the sapwood, pumped by forces that baffle understanding.

Temperature changes seem to supply the pumping force. The ideal sugar weather is a time of warm days, with the temperature around forty degrees, and frosty nights. During the day, when the upper parts of the tree are warmed, pressure forces the sap into the hole

bored in the trunk. Freezing, on the other hand, causes a suction that fills up the cells again. The usual practice is to tap the tree on the south side where differences of temperature are more marked. In Vermont scientists found that at first most of the sap comes from above the hole, but as the season progresses more sap comes from below. The first runs yield the best sap in most generous quantities.

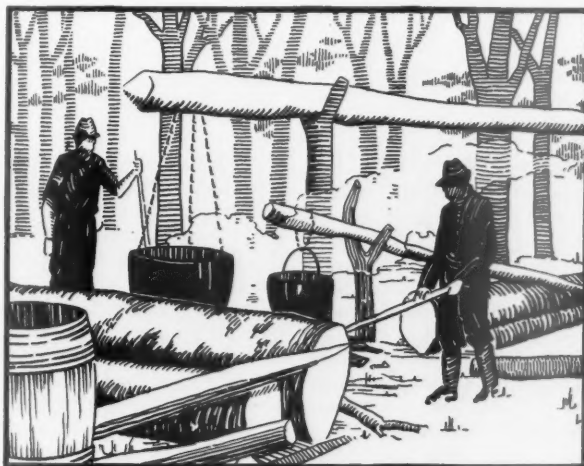
If you have never heard the older folk tell about making maple sugar you have missed a tale full of romance and hard work.

Sap buckets used to be made of staves. These were taken down from the loft early in the season to be washed and soaked. Sap spiles were made of sumac. Iron kettles were hauled to the boiling places, where they were suspended by log chains in somewhat the same way that a Boy Scout

ARBOR DAY

J. Sterling Morton will live in memory as long as trees are loved and their needs felt. This is another way of saying his name is immortal. In 1872, under his leadership, Nebraska established an annual tree-planting day and called it Arbor Day. Nebraska needed trees. The settlers came largely from tree regions, and their souls cried for trees. Over a million trees were planted in Nebraska the first Arbor Day. His ideals captured the imaginations of people everywhere and now every state recognizes Arbor Day.

Arbor Day is a time when we stop to take stock of the esthetic in our surroundings and strive for improvement. Cooperative effort for civic betterment is its appeal and challenge. Children are taught lessons in beauty and conservation by the effective method of work. Wherever a tree is planted on that day it stands a thing of beauty in our lives and a symbol of the importance of forests in the life of the nation.



Making maple sirup by old-fashioned methods.

learns to cook "mulligan stew" over a fire. With an auger, holes about three-eighths of an inch in diameter were bored in the trees, one to two inches deep, inclined slightly upward. Deeper boring was unnecessary, as only the parts near the bark were alive and contained enough sap to flow freely. Into these the sumac spiles were driven with a wooden mallet, and the pail hung below to receive the sap. The next day the pails of sap were carried by means of neckyokes to the kettles and the boiling began. How delightful must have been the night experience with the fragrance of the sap permeating the woods while the shafts of firelight pierced the darkness.

After a day or so of boiling sap and skimming off the scum, the "siruping down" process began. No sap was added and the boiling mass was watched carefully until pronounced sufficiently thick. The kettle was then swung off the logs and the sirup strained through a cloth. The sirup was further boiled down over a cookstove, stirred until it grained and poured into tins to make maple cakes. Today hot, thick maple syrup is poured on snow to make the most delicious of all sweets—maple wax. Children have done this ever since

maple sirup was first made. The process of making syrup is the same today as of yore, but improved apparatus hastens the evaporation, saves on fuel and reduces labor. Galvanized buckets with covers have taken the place of stave buckets; galvanized spiles now conduct the sap and hold the bucket. In place of the rustic caldron are sugar-

houses with evaporating furnaces, while the finishing point is determined by hydrometers instead of by judgment. However, the older folk believe the product of today "a pale and anemic liquid, lacking the delicious flavor of the rich, dark nectar which they, with the help of cinders, smoke and various other things, was brewed of yore in the open woods." How far sentiment has tempered opinion in this statement is left for judgment. Science has found duplicate flavors and adulterations have crept in. A great maple sap product is the reflection of a conscientious character. Two years ago I bought maple sugar made by 4-H Club boys and girls in the greatest maple-sugar-producing state of the nation—Vermont. It was great, and I know where there is a market for some this year.

In a normal season one tree, twelve inches in diameter, yields between ten and thirty gallons of sap. The sugar content of the sap varies widely, but normally is around two per cent. The factors that cause difference in yields and sugar content are location of tree, amount of growth, and temperature changes during the gathering period.

Around thirty gallons of two-per-cent sap make a gallon of sirup or seven and one-half pounds of sugar.

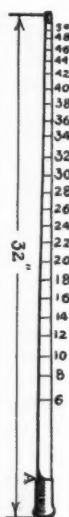
All trees of the maple family yield a sweetish sap but only two members produce a sap of sufficiently high sugar content to warrant commercial production. These are *Acer saccharum* and *Acer saccharum nigrum*. No one need stumble over these botanical terms, however. *Acer* means maple; *saccharum*, sugar; and *nigrum*, black. The maples

thrive under shade and so are peculiarly adapted to grow in the farm woodlot. Production of maple-sap products and wood production go hand in hand. The older stock, the sap-producing trees, are given ample space for full crown development. Younger stock should be developed as an understudy to take the places of the mature trees as they are felled for fuel or lumber. Improvement cutting and thinning in a "sugar bush" are carried on according to the principles of woodlot management. A well-stocked acre of "sugar bush" will contain from thirty to fifty trees, twelve to twenty-four inches in diameter. Also there will be seventy-five to one hundred poles, four to twelve inches in diameter; saplings will number from two hundred to four hundred and seedlings from two thousand to five thousand. Any boy, thinking about his future on the farm, or about future farm values, will find the farm woodlot a most challenging proposition.

You can't beat a boy absorbed in an important task. The only equal is a girl likewise engaged. Recently a future farmer boy, living in Florida, won a trip to the Kansas Royal Stock Show, offered by The American Forestry Association and The Florida Forest Service. Across the thousands and more miles that separates us, the writer extends a hand in hearty congratulation, and with it goes a "right smart" whack on the back, urging continued effort and study. Hats off to the past. Sleeves rolled up for the future. It is hoped his example will send its light afar and point the way for



Sampling the sap.

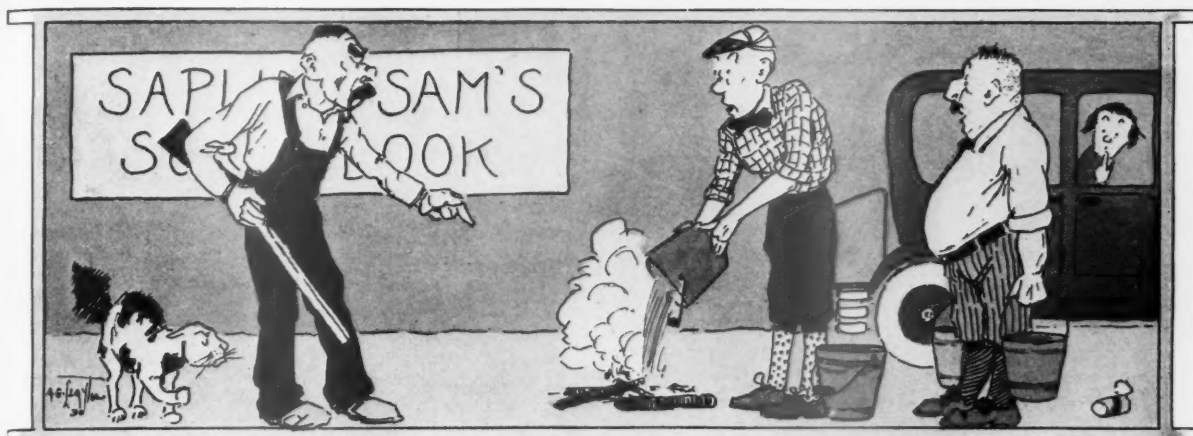


The Biltmore stick.

Diameter, breast high (d), inches	LENGTH OF ARM				
	22	23	24	25	26
6	5.32	5.34	5.37	5.39	5.41
8	6.85	6.89	6.93	6.96	7.00
10	8.29	8.35	8.40	8.45	8.50
12	9.66	9.73	9.80	9.86	9.93
14	10.94	11.03	11.13	11.21	11.29
16	12.17	12.29	12.40	12.50	12.59
18	13.35	13.49	13.61	13.73	13.84
20	14.47	14.63	14.77	14.91	15.04
22	15.56	15.72	15.89	16.05	16.19
24	16.60	16.79	16.97	17.14	17.30
26	17.60	17.81	18.01	18.20	18.38
28	18.57	18.80	19.02	19.23	19.43
30	19.51	19.76	20.00	20.22	20.44
32	20.43	20.69	20.95	21.19	21.42
34	21.31	21.59	21.86	22.13	22.38
36	22.18	22.47	22.76	23.04	23.30
38	23.00	23.32	23.64	23.94	24.23
40	23.83	24.17	24.49	24.80	25.10
42	24.62	24.98	25.32	25.65	25.96
44	25.40	25.78	26.13	26.48	26.81
46	26.17	26.55	26.93	27.29	27.64
48	26.91	27.31	27.71	28.09	28.46
50	27.64	28.07	28.48	28.86	29.24

many boys and girls to the joys of worth-while accomplishment in a field where boys and girls are vitally needed.

Timber cruisers develop remarkable accuracy in estimating diameters, heights and contents of trees. This ability is developed by extensive practice. Most of them in the early stages had some means of training the eye by checking their estimates. You would do well to make instruments to help develop accuracy in judging space. The eye gets surer with repeated practice. The Biltmore stick is suggested for this month. It is used to measure the diameters of trees. It is very simple in construction. Select a sound stick thirty-two inches long, and an inch square. At one end space is left for a handle—four inches is enough. Draw at this four-inch mark the first indelible line, "A" in the illustration. To determine the graduations on the stick find out to what "length-of-arm" class you belong. This is found by holding a clasped stick directly in front (Continuing on page 189)



Jamboree in the Jam

Two little boys were talking. One said to the other: "Aren't ants funny little things? They work and work, and never play."
"Oh, I don't know about that," replied the other. "Every time I go on a picnic they are there."—*Boston Christian Register.*

Rarity

Now fades the glimmering landscape on the sight,
But what is that last alien sight we see?
Impossible! Yet off there on our right
A gap between the billboards on the lea.—*Chicago Evening News.*

Uncertainty

First Fisherman: "Why are you changing your position, Jack?"
Second Fisherman (on the move): "I couldn't stand the uncertainty up there by Jackson; he's got hiccups, and it made his float look as though he had a bite all the time."—*London Opinion.*

Enough!

Animals can't be related to man. They don't keep on grabbing for more when they have had enough.—*Anaheim Plain Dealer.*

Final Touches

All Columbus did, says Sapling Sam, was to discover America. Look what the wood-burners have done to it.

Mighty Cat

"Snake Chases Moose But the Cat Gets It," says a headline in the *Detroit News*.

Wise 'Gators

The Florida beach and blue sea looked inviting to the tourist from the North, but before venturing out to swim he thought to make sure.

"You're certain there are no alligators here?" he inquired of the guide.

"Nossuh," replied that functionary, grinning broadly. "Ain't no 'gators hyah."

Reassured, the tourist started out. As the water lapped about his chest, he called back.

"What makes you so sure there aren't any alligators?"

"Dey's got too much sense," bellowed the guide. "De sharks done skeered dem all away."—*American Legion Weekly.*

Fishing Note

Pat: "What are you doing, Mike?"

Mike: "Dropping a line to the fishes."

Pat: "Do you expect any answers?"

Mike: "I hope to get some C. O. D."—*Kablegram.*

Wrong Label

"A spoonful of water contains 270,000 potential horse-power," says a scientist. That isn't water.—*Life.*

T'wan't Him

Two backwoodsmen in Maine knocked at the door of a house at the edge of the forest. "Hello, Ed!" said one of them to the farmer who came to the door. "Say, we came across the dead body of a man over there in the hollow, an' we kinda thought 'twas you."

"That so? What'd he look like?" asked the farmer.

"Well, he was about your build—"

"Have on a gray flannel shirt?"

"Yep."

"Was they knee boots or hip boots?"

"Let's see. Which was they, Charley, knee boots or hip boots? Oh, yes, they was hip boots."

"Nope," said the farmer. "T'wan't me."—*The Lumber Co-operator.*

Like Other Birds We Know

The little birds within the trees

Try very hard, no doubt, to please;

But we'd much rather they would go

And twit their twits by radio.

So when of twitting we'd enough

We'd spin the dial on such shrill stuff.—*Washington Times.*

Also Used in Doughnuts

Pat was hired in a lumber office. The proprietor was a young man and he decided to have some fun with the new hand, so Pat was left in charge of the office, with instructions to take all orders which might come in. Going to a nearby store, the proprietor called up the office:

"Hello! Is this the East Side Lumber Company?"

"Yis, sorr."

"Send me up one thousand knot holes."

"What's that?"

"One thousand knot holes."

"Well, now, an' ain't that a shame! We are just out of them. Sold them all to the brewery."

"To the brewery? What do they want with them?"

"They use them for bung-holes in barrels."—*Southern Lumber Journal.*

Our Sense of the Delicatessen

You can't confuse these modern children. A little while ago, says Sapling Sam, I heard one of them shout as he spied a young cucumber in the garden, "Hey, look at the pickle!"

And only recently a young miss driving with her family by a cattail swamp exclaimed, "Goody-goody! Here's a hot dog garden!"

Caution to Swimmers

In a certain province liable to floods there is a notice on a low-lying road which reads:

"When this sign is under water this road is impassable!"—*The Nation's Business.*



The inventive sportsman who dreaded rear attacks!

THE SLEEP OF ALL CREATION

(Continued from page 142)

time of waiting. In nature there seem no short-cuts to joy; or, if there are such bypaths, they lead only to artificial satisfaction. I once heard an old negro sage make a quaint but profound remark concerning the behavior of a sophisticated mother of a large family who cared more for late parties than for putting her children happily to bed.

"She ain't jes' reg'lar," he said. Her affections did not function according to the ordinary course of nature. Day and night, summer and winter—these are the ancient alternations of creation, and the children of nature accept them without question. "In Thy will is our peace," wrote Dante. And all living things save man appear to sense and to obey the laws of nature, appreciating, however dimly, that only by such obedience can the security of joy be insured.

On my way back to my car I came upon a grapevine that compelled me to gaze. It must have been sixty years old. It was rooted at some distance from a huge white pine of the original forest's growth. The main-bodied trunk of the vine went straight up for three feet—this ascent evidently representing the original tendril's skyward aspiring. But now there was a great loop earthward; then the vine hugged the earth, rooted all along its length, of course, until it began its

heroic clambering of the tree. Standing off, I could see the top streamers of the grape seventy feet from the ground, its mazy branchings compelling almost every limb of the tolerant tree to support some part of the climber's weight. And now the superb and virile length and strength of that great vine lay slumbering, yet not an incontinent abandon of all save ease, rather a sentient waiting, a loving preparing, the purposeful pause that always ends in fulfillment.

It is generally supposed, or taken for granted, that trees and vines and shrubs do not grow while they are dormant. In a strict sense, that is probably true. But they gather strength, as all of us do, by resting. Deep in the genial, unfrozen earth the roots drink in the winter rains. All encumbrances have been laid aside; leaves and fruit have been borne and shed; duties past, serene relaxation follows, mild and salutary. Such is creation's sleep. Restoring rest is always a growth in spirit, a filling of the depleted reservoir. In the winter's forest lies the lyric silence between the antiphonal song of autumn and springtime—the golden, elegiac recession of the fall; then living stillness, preceding the glad processional of Persephone's return.

Financial Statement

THE AMERICAN FORESTRY ASSOCIATION
WASHINGTON, D. C.

Balance Sheet as of December 31, 1930

ASSETS

Cash	\$27,828.68
Endowment Fund	243,586.61
Building Fund	15,000.00
Accounts and notes receivable	4,566.19
Inventories	5,674.94
Interest accrued on investments	4,496.24
Furniture and fixtures	4,625.84
Special Revolving Fund	10,000.00
Deferred charges	555.42
General fund investments	9,100.00
	<u>\$325,433.92</u>

LIABILITIES AND CAPITAL

Accounts payable	\$69.60
Reserves:	
Prepaid memberships	\$31,521.44
Southern Educational Project	13,139.06
Nut Tree Project	6,894.16
	<u>51,554.66</u>
Surplus	273,809.66
	<u>\$325,433.92</u>

INCOME AND EXPENSE ACCOUNT FOR YEAR ENDED DECEMBER 31, 1930

(Exclusive of Reserve Account Income)
OPERATING

EXPENSE

Magazine	\$56,961.20
General administration	28,492.91
Membership solicitation	10,436.02
Forester's Office	9,267.42
Educational publicity	5,681.66
Excess of income over expenses	5,879.64
	<u>\$116,718.85</u>

INCOME

Membership dues	\$77,830.66
Miscellaneous magazine sales	1,122.75
Advertising (net)	15,833.63
Interest, exclusive of portion necessary to maintain life and patron memberships	11,380.12
Donations	612.00
Forester's Office	9,144.17
Miscellaneous	215.52
Profit on sale of securities	580.00
	<u>\$116,718.85</u>

SOUTHERN FORESTRY EDUCATIONAL PROJECT

Cash Received and Contributions Receivable

Cash received	\$171,974.71
Contributions receivable	15,486.84
	<u>\$187,461.55</u>

Summary of Assets and Disbursements as of December 31, 1930

Cash on hand	\$14,329.50
Advances	152.16
Contributions receivable	15,486.84
	<u>\$29,968.50</u>
Total assets	\$29,968.50
Disbursements:	
1928-1929	\$61,492.58
1929-1930	60,127.42
1930-1931	35,873.05
	<u>\$157,493.05</u>
Total to date	\$187,461.55

Jim Bridger, famed frontier scout and mountain man, explored the Yellowstone more than a hundred years ago.



They Wouldn't Believe Him!

—And No Wonder

Guests in Yellowstone National Park stand spellbound before erupting geysers, marvelling at their stupendous power; gaze in awe-inspired reverence at the beauty and immensity of the Grand Canyon; exclaim in amazement at the hundreds of other natural phenomena in this magic region.

Small wonder old Jim Bridger's stories failed to gain credence among the skeptics of his day! For even now one must SEE—to fully appreciate the glories of Yellowstone.

Bridger, finding people would not believe him, deliberately elaborated his stories. They have become epics. A few of them have been reprinted in booklet form. You may have one of these booklets, as well as full information on Yellowstone tours and album descriptive of the Park, by mailing the coupon.



Northern Pacific Railway



E. E. Nelson, 332 Northern Pacific Ry.,
St. Paul, Minn.

I am planning a Yellowstone trip. Please give me details about:

☐ Independent Tours
☐ Escorted All-Expense Tours

☐ Please send me free album about Yellowstone Park
☐ I'd like to have Bridger's Stories of The Yellowstone

☐ I am interested in a trip to.....

Name.....

Address..... 'Phone.....

If student, show grade.....107

AROUND THE STATES



To Organize South Carolina Forestry Association

Plans to organize a South Carolina Forestry Association to conduct an educational campaign for reforestation of marginal and sub-marginal lands in the state featured the commercial forestry conference held in Columbia late in January. Louis I. Guion, chairman of the conference, was authorized to appoint a committee for its organization.

The importance of reforestation of South Carolina lands was emphasized by a number of noted speakers which included Dr. W. W. Long, director of extension at Clemson College, and B. W. Crouch, president of the South Carolina Bankers Association.

The major resolutions adopted by the conference indorsed the request of the State Forestry Commission that the annual funds to be made available to the commission be increased to the end that some educational fire work might be carried on in each county of the state and that the full amount of the Federal allotment might be realized. The conference also requested the governor to appoint a committee to make a thorough study of the forest-land taxation already in force in other states and to formulate some such laws applicable to South Carolina.

Among the speakers were Axel H. Oxholm, director of the National Committee on Wood Utilization; Ovid Butler, executive secretary of The American Forestry Association; E. L. Demmon, director of the Southern Forest Experiment Station; H. A. Smith, state forester of South Carolina; Alex Sessoms, of Cogdell, Georgia; Paul Redington, president of the Society of American Foresters, and director of the United States Biological Survey; Dr. E. W. Sikes, president of Clemson College; and Horace L. Tilghman, chairman of the South Carolina Forestry Commission.

Pinchot Appoints Staley; Smith State Forester of South Carolina

Lewis E. Staley, State Forester of South Carolina, has been appointed by Governor Pinchot as Secretary of the Department of Forests and Waters of Pennsylvania, succeeding

ing Joseph Illick, it has been announced. At the same time it was announced that H. A. Smith, assistant State Forester of Florida, had been named to succeed Mr. Staley in South Carolina as State Forester.

Mr. Staley had previously served the department in Pennsylvania for more than twenty

Upon taking over the office in Pennsylvania, Mr. Staley announced that John W. Keller, former chief of the Bureau of Extension of the Department of Forests and Waters, had been appointed by Governor Pinchot as deputy secretary of the Department.

Mr. Smith, who becomes State Forester of South Carolina, is also a graduate of the Mont Alto State Forest School in Pennsylvania, and served as district forester for the Department of Forests and Waters. For more than two years he has been Assistant State Forester of Florida.



H. A. Smith.

Pulaski, Fire Hero, Dies

Edward C. Pulaski, hero of the 1910 forest-fire season in northern Idaho, and long a ranger in the United States Forest Service, died at his home in Coeur d'Alene, Idaho, on February 2. He was sixty-two years old.

The incident which gave Pulaski national recognition occurred in August, 1910, during the most disastrous forest fires the country has known. During the latter part of the month, Pulaski had a crew fighting fires in the two Big Creeks on the St. Joe National Forest in Idaho.

On the morning of August 20 the situation had become so perilous that Pulaski felt they could not remain in safety where they were, and consequently started out toward Wallace with about fifty men.

Before reaching their destination the smoke became so dense that Pulaski could not tell whether or not to proceed. Leaving the crew in a mine tunnel at the forks of West Placer Creek, he took two men and started ahead to see if they could get through. He had in mind that a mile and a quarter downstream there was another tunnel which offered a possible place of safety. Finding his hopes confirmed, he sent a messenger back to bring the crew down, while he and the other men threw out all of the material stored in the tunnel, including hundreds of pounds of powder. When the crew reached the tunnel he and his helper herded the men and two horses inside, did everything he could to quiet the men, and proceeded to barricade the mouth of the tunnel. He ordered the men to lie down on their faces, while he stood as well as he could at the mouth of the tunnel holding back the frantic men at

years. Following his graduation from the Mont Alto State Forest School, in Pennsylvania, in 1906, he was assigned to the Mont Alto State Forest, serving as Forester from 1910 to 1920. That year he was appointed chief of the Bureau of Operations, and in 1923 was named Deputy Commissioner of Forestry. Later he was named deputy secretary of the Department of Forests and Waters, serving until 1927, when he became State Forester of South Carolina.

the point of a gun. This was about six o'clock.

At eleven o'clock the fire had spent its force. Five men were found suffocated, but in each case Pulaski's orders to lie down had not been obeyed. The members of the crew who had escaped were cared for in the hospital at Wallace. Pulaski was seriously affected by fire and smoke, but nevertheless recovered sufficiently to render valuable service in subsequent years.

Pulaski was a direct descendant of Count Pulaski, Polish patriot who served in the American Revolution. He entered the Forest Service in July, 1908. He retired from his active duties in February, 1930, and has since lived in Coeur d'Alene.

Pinchot Endorses National Nut Tree Planting

In a letter to O. H. Benson, director of Rural Scouting of Boy Scouts of America and vice-chairman of the National Nut Tree Planting project, Gifford Pinchot, Governor of Pennsylvania, again demonstrates his life-long enthusiasm for conservation by expressing his willingness to cooperate and pledging the assistance of Pennsylvania foresters in the forestry enterprise which has for its goal the perpetuation of America's native nut trees and increased interest in American history.

Governor Pinchot writes: "I am very much delighted to learn that your Boy Scout Troop Tree Planting Program includes the planting of such a large number of black walnut seed, which you expect to secure from historic ground. Our District Foresters will be glad to cooperate with you to the fullest extent, and I enclose a list of names and addresses, so that you may get in touch with them direct.

"I am sure you will let me know if I can be of further service."

New York to Make Conservation Survey

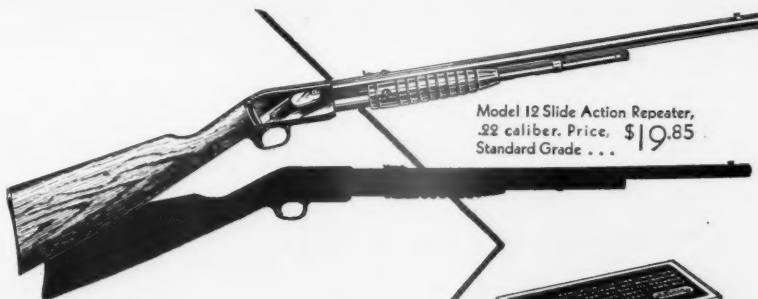
A state-wide survey embracing every phase of conservation from animal propagation to river flow control has been instituted in New York by State Conservation Commissioner Henry Morgenthau, Jr. The survey is the outgrowth of a series of conferences between Governor Roosevelt and the new head of the Conservation Department.

The first direct action by the Conservation Commissioner was the appointment of a Conservation Advisory Council, composed of distinguished conservationists, who include outstanding legislators, educators, agriculturists, representatives of fish and game organizations, advocates of greater recreational advantages including state parks, and publicists, all of whom have been active in the field of conservation over a long period of years.

Commissioner Morgenthau declared that every angle of the conservation problem would be subjected to the closest examination at the hands of experts. At the same time, he pointed out that the investigation, intra and extra-departmental in range, will be wholly scientific in character and motive, and is designed to bring to light the best possible means of promoting the cause of conservation. Generally, he made it plain, it will be conducted in much the fashion of the survey of agricultural conditions directed by him through the past two years for Governor Roosevelt, as chairman of the Governor's agricultural advisory commission.

The following have been appointed to the Conservation Advisory Council:

Henry M. Nicholls, president, New York State Conservation Association; John B. Burnham, Campfire Club of America; A. A. Davis, president, New York State Division Izaak Walton League; William B. Greeley, vice-



Model 12 Slide Action Repeater,
.22 caliber. Price, \$19.85
Standard Grade . . .

if it's speed
and accuracy
you want—



WHY, then there's only one
answer—a Remington .22
caliber rifle. The Model 24 if you like
a speedy autoloader; the Model 12 if
you prefer a slide action repeater.

Fishing, camping, motoring, or just strolling around the country—take a Remington along. For small game in season; for pests that destroy game, poultry, or crops; and for target shooting, you'll find the right rifle in one of these light, graceful, popular Remingtons.

See them at your dealer's. Write for a descriptive folder. Address: Remington Arms Works, 58 East Main Street, Ilion, New York.

Go to your dealer and ask him to show you
The Remington Standard American Dollar Pocket Knife

REMINGTON ARMS COMPANY, Inc.
Originators of Kleanbore Ammunition

Remington

© 1931 R. A. Co.

4064B

Mention AMERICAN FORESTS—It Helps

VACATIONS



ALLAN RANCH

BEYOND ALL ROADS
IN THE BIG ROCKIES. DUDE RANCH.
MODERN—WARM PLUNGE, RIDING,
PACK TRIPS, SWIMMING, FISHING,
HUNTING, MOTOR BOATING.
Let's Go for Spring Bear Hunt—Grizzly,
Black and Brown. Booklet.
RALPH ALLAN **Augusta, Montana**

MAD CREEK RANCH

Steamboat Springs, Colorado
A Dude Ranch within the National Forest—Isolated
but readily accessible. The Camp affords unusual
opportunities for healthful, enjoyable and economical
vacations.

Circular

DR. GEORGE IVES, Owner
Beaumont Medical Building - Saint Louis, Mo.

CHANNEL BASS

Trout, Croakers, Blues,
Kings, etc. about 4-1 to
6-1 to 10-15.
Guides, Power Boats with Cabins and awnings. A-1 Hotel, 50 double
rooms, 30 connect-baths. Sea Foods, Home Grown vegetables,
Fresh milk, eggs, etc. Amer. Plan, day \$3.50 and \$4.00.



Channel Bass 25-50 lbs., Trout 1 to 10 lbs. Surf Bathing. Del-Mar-
Va Stone Road or O. F. C. and N. E. or via Norfolk.
Hotel Wachapreague, Wachapreague E. Shore, Va. (Ocean Side)
Booklets A. H. G. MEARS, (Ownership Management)

The Cover Picture

Special 4-color prints of the insert
used on the front cover of this issue are
now available for framing.

Reproductions of the painting of
White Swan by Willard B. Gillette, en-
titled "Northward Bound," have been
mounted on a fine grade of cream art
mat and make an unusually attractive
wall picture.

Only a few are available at the small
cost of 25c postage prepaid and early
orders will receive prompt attention.
Address:

Editorial Dept., AMERICAN FORESTS
1727 K Street, N. W.
Washington, D. C.

president, American Game Protective Association; William O. Dapping, president, New York State Fish, Game and Forest League; Clarence L. Fisher, president, New York State Forestry Association; John G. Agar, president Society for the Protection of the Adirondacks; John N. Carlisle, president, Empire State Forest Products Association; Russell M. L. Carson, president, Adirondack Mountain Club; Dr. Hugh P. Baker, dean of Syracuse University; Ralph Hosmer, Department of Forestry, Cornell University; State Senator Charles J. Hewitt, chairman, Legislative Reforestation Committee; Dr. George F. Warren, Cornell University; Fred J. Freestone, master, New York State Grange; C. R. White, president, New York State Farm Bureau Federation; State Senator George L. Thompson, chairman, Senate Committee on Conservation; Assemblyman Ellis W. Bentley, chairman, Assembly Committee on Conservation; E. R. Eastman, editor, *American Agriculturist*; and Arthur D. Heacox, president, New York State Publishers' Association.

Ozark Foresters Elect Officers

The Ozark Section of the Society of American Foresters, including professional foresters in Arkansas, Oklahoma, Missouri, Kansas and western Tennessee, met in Hot Springs, Arkansas, on January 29, and elected the following officers for the coming year: George R. Phillips, Oklahoma state forester, Oklahoma City, chairman; A. C. Shaw, supervisor, Ouachita National Forest, Hot Springs, Arkansas, vice-chairman; and C. A. Gillette, extension forester, Little Rock, Arkansas, secretary. The retiring officers are: A. J. Streinz, of the University of Louisiana, chairman; William L. Hall, of Hot Springs, vice-chairman; and M. T. Barron, of Spartansburg, South Carolina, secretary.

Cumberland Falls Becomes Park

Cumberland Falls in Whitley County, Kentucky, has passed into the possession of the state and will become a state park, it has been announced by Governor Flem D. Sampson.

The money for the purchase of the property, amounting to \$400,000, was donated by the family of the late United States Senator T. Coleman duPont, of Delaware, who was a native of Kentucky, the announcement said. The property was purchased from the Cumberland River Power Company and subsidiaries.

Precedent Established in Grazing Case

A precedent of importance in the management of range lands on the National Forests was established when damages in full amounting to \$231 were awarded the Government in a suit brought against the Swartz Sheep Company for failure to comply with the terms of a permit issued for the grazing of sheep on the Madison National Forest, in Montana, according to the Forest Service.

The grazing permit required that sheep should not be bedded more than one night on certain bedding grounds and it was shown that as a result of failure to comply with this regulation the carrying capacity of the range in question was reduced by ten per cent. The defense was based largely on the alleged impracticability of the one-night bedding regulation, and a denial that any damage resulted.

Mention AMERICAN FORESTS—It Helps

Save Your 1931 Magazines



Each issue of American Forests contains a great many new features. Save your copies. They become increasingly valuable and interesting as years go by. Start putting them away now and protect them by using a binder to insert each one as received.

No punching, "spare parts" or other annoyances to try your patience. Each issue can be inserted in fifteen seconds.

This binder is identical in workmanship and materials with those sold by other magazines for \$3.00 to \$5.00. It is strongly made and guaranteed to give satisfaction.

No profit is made in selling this binder to you. The price—\$2.00—merely covers the cost of manufacture and stamps used in bringing it to you.

Each binder holds twelve issues and is guaranteed. Your money refunded if you are not more than pleased.

The American Forestry Association

1727 K St. N. W., Washington, D. C.

MAIL THIS COUPON—PRINT PLAINLY

The American Forestry Association,
Washington, D. C. Date.....

Send me.....distinctive binders for AMERICAN FORESTS, postpaid, for which I enclose \$2.00 for each binder. If I am not unusually well pleased I will return them to you promptly in 5 days, and my money and postage will be returned to me.

Name

Street

City and State.....

Scout Describes Nut Seed-Gathering

Charles L. Lott, chief of the Adams County Lone Scout Tribe, who gathered more than five bushels of nut seeds himself after locating the trees which yielded them, reports how he managed the enterprise and that under favorable conditions he will provide approximately twenty bushels of black walnuts next fall for the National Nut Tree Planting Project which is sponsored by Boy Scouts of America, the United States Department of Agriculture, The American Walnut Manufacturers' Association and The American Forestry Association. More than that he was active in arranging a



Charles Lott—Tribe Chief.

meeting at the home of O. H. Benson, director of Rural Scouting of Boy Scouts of America, at Guernsey, Pennsylvania, to which other scouts brought bags of nuts. Scout Lott writes to the headquarters of the National Nut Tree Planting Project in Washington:

"All seeds were gathered on my home farm. During the summer months I had examined all nut-bearing trees on the place, having decided to participate in the program in the fall. I started to gather my seeds in the early part of October. All of the trees are within a mile of the buildings, so I would go out with a wheelbarrow and usually two bags, filled the bags and brought them in on the wheelbarrow. I spread the nuts out to dry on the loft of a well-ventilated building. By November 20 I had five bushels gathered and dried. These I shipped to you. Later I took a half bushel to the meeting at Mr. Benson's home, where most of the other county scouts had brought nuts also. If there is a good crop of seed next year we will be with you again. I can safely say that if the crop is good as this year we can provide close to twenty bushels. Assuring you that it has been a pleasure to help you and with best wishes for the success of the Project."

Forest Supervisor to Lecture

To give the story of forestry as it is practiced by the United States Forest Service, John C. Kuhns, Supervisor of the Whitman National Forest in eastern Oregon, has been detailed for presentation of a series of lectures at schools of forestry of the Middle West, East and Northeast.

Supervisor Kuhns, who has been a member of the Forest Service for twenty years as forest guard, ranger, range examiner and supervisor, will tell of the work on the Whitman National Forest, including sales of timber, use of forage, provision for camping and summer home sites, building mountain telephone lines, roads, trails, lookouts, and organization of fire protection. He will detail the administration of this forest of a million and a half acres, and show how the forest resources are protected and developed.

The program includes five talks at each of the following schools of forestry: University of Minnesota, Iowa State College, Michigan State College, University of Michigan, Purdue University, University of New Hampshire, University of Maine, Connecticut Agricultural College, Yale University, Syracuse University, Cornell University, and Pennsylvania State College.

Ladd Named Assistant to Morgenthau

Dr. Carl E. Ladd, director of Extension at Cornell Agricultural College, has been named as the only deputy commissioner and as assistant to Henry Morgenthau, Jr., newly appointed head of the State Conservation Commission of New York. Dr. Ladd has obtained leave of absence from the college to take up his new work.

Mr. Morgenthau, publisher of *The American Agriculturist*, is a son of Henry Morgenthau, Ambassador to Turkey during the Wilson Administration. He is a graduate of Cornell University. He has previously held a salaried public office with the Agricultural Advisory Commission and the Taconic Park Commission, on which he succeeded Governor Roosevelt.

Establish Colonial National Monument

The Colonial National Monument has been established in Virginia by presidential proclamation. Three areas of prime historic importance are included in the monument—Jamestown Island, site of the first permanent English settlement in the United States in 1607; Williamsburg, where some of the nation's first educational institutions were organized; and Yorktown, which was the scene of the culminating battle of the Revolution and where Lord Cornwallis surrendered. Also included in the reservation will be a parkway connecting the three areas.

Mississippi Forestry Association Founded

A Mississippi Forestry Association was organized at a meeting on February 12 at Jackson, Mississippi, following a proclamation by Governor Bilbo, to further the cause of forestry in that state, according to the Mississippi Forest Service. In his proclamation Governor Bilbo announced that landowners of Mississippi have 19,000,000 acres of uncultivable lands, most of which can yield profitable returns only through timber production. He urged that an organization be formed among the citizens of Mississippi to further the cause of forests generally; to determine and secure a proper forestry policy within the state; to secure adequate forest fire protection; to encourage reforestation on non-agricultural lands, and otherwise to arouse a proper attitude of thought and action in the management of both state and privately owned lands.

Mention AMERICAN FORESTS—It Helps

A genuine
SAVAGE

\$4.85
Retail

New
Model 3

All gun—all value—
all Savage!

It seems incredible—a husky, takedown bolt action .22 for \$4.85! But it's true—and you can't know *how* remarkable it is until you snap the new Model 3 to your shoulder and line up the target over its Lyman gold bead front sight, and work that smooth Savage bolt action. Only then can you fully appreciate that here's real shooting satisfaction at real dollar saving!

Savage engineered and built throughout, Model 3 has superior design bolt action providing easy loading and positive extraction. *It is SAFE!* The firing pin is held at half-cock when the bolt is closed.

Single shot, 22" round barrel, with Lyman gold bead front sight and adjustable flat top rear sight. Full sized pistol grip. Steel butt plate. Chambered for .22 caliber long rifle rim-fire cartridges (or .22 short or .22 long may be used). Weight about 3¾ lbs.

SAVAGE ARMS CORPORATION

Utica, N. Y.

Get this coupon or a card off NOW for full details, or see Model 3 at your dealer's.



SAVAGE ARMS CORPORATION
Dept. 155, Utica, N. Y.

Gentlemen: Please send me complete data about the New Model 3.

Name

Address

City.....State.....



FREE CATALOG

Ready March 1st

Fully illustrated—showing footwear, clothing, and camping specialties for fishermen and motor campers.

L. L. BEAN
221 Main St.
FREEPORT, MAINE

FOODS ATTRACT DUCKS, GAME BIRDS, FISH

Plant water plants—wild grains—berry-bearing shrubs, 99 kinds. *Duck Potato, Wild Rice*, etc. We show you how. 35 years successful experience. Planting helps folder free. Ask about our personal investigation and planting service.

Terrell's Nurseries 23 C. Bldg. Oshkosh, Wis.

ATTRACT Wild Ducks, Fish, Muskrats, Upland Game Birds and Animals

Plant Natural Foods that will bring and hold large numbers at your favorite hunting or fishing grounds. *Wild Rice, Wild Celery, Duck Potato* and 30 others described in free illustrated book. Write, describe grounds, and receive free planting advice and book.

Wisconsin Aquatic Nurseries
Box 331-K Oshkosh, Wis.

INDIANFIELD PHEASANTRY

English Ringneck, Mongolian, Blackneck, Melanistic Mutant, Silver, Golden, Lady Amherst, Reeves and Japanese Versicolor Pheasants. Selected stock for breeding or liberation. Live arrival guaranteed. Hatching eggs for Spring shipment. Illustrated and descriptive literature free.

Box 4 Telford, Pa.

GOKEY BOTTE SAUVAGE

"The best all-around boot in the World" Manufactured Since 1880

Water-Proof, Genuine Pac Moccasin, Hand Sewed, Made to Measure. A pound or two lighter than the average boot; easy to put on and take off; no hooks to catch. Ankle strap holds boot in place, and also acts as ankle support. Write for measure blank and Footwear Catalog.

FREEMAN-THOMPSON SHOE CO.
Dept. 31. St. Paul, Minnesota

BIG 3 FT. TELESCOPE Five Sections. Powerful Lenses. 10-Mile range. Special Eye Piece for looking at the sun, included FREE. Can be used as a Microscope. Guaranteed. Big value. Postpaid \$1.75. C. O. D. 15c extra.

BENNER & COMPANY, T-47, TRENTON, N. J.

BOB WHITE QUAIL
America's Largest Producer

Big, brown native southern; also importer of Mexican bob white. Free range bred birds for restocking, and pen raised for pen breeding purposes. Delivery only from December to April, inclusive. Free folder.

M. E. BOGLE, San Antonio, Texas

U. S. HEADQUARTERS
Imported Arms, Ammunition & Parts
Mannor-Luger-Merkel Bros.-Mannlicher-Wobley-Scott, etc.

Full line American Arms & Ammunition
Springfield's Best Matched to Cal. Whelan's Revised Specifications
Largest stock in America of fine new Rifles, Trap, Field Guns, Side Arms, Air Rifles & Pistols. *Telescopes mounted. *Expert Repairing. *Send 25c in stamps for 128 page Arms Catalog.

A. F. STOEGER, INC. NEW YORK, N. Y.
509 Fifth Avenue (at 42nd St.)

A New Plant Pot

Designed on the principle that moisture and air contribute more to root development than any other factor, a new peat plant pot has been put on the market by the Growell Pot Company, of New York. They are made of soil-forming material, calculated to maintain correct moisture content by capillary attraction which keeps even balance of moisture in soil. It is claimed not to bind roots because of its composition and porosity. Roots grow into and through the bottom and walls of the pot.

Foresters Meet in Albany, New York

The New York State Forestry Association held a dinner meeting in Albany, New York, on February 5, followed the next day by a meeting of the New York Section of the Society of American Foresters. Discussion centered around problems affecting forestry in New York State, but both meetings passed resolutions urging the retention of the several forestry items in the Agricultural Appropriation Bill now in Congressional conference, favoring additional appropriations to the Biological sections of the McNary-McSweeney Act, and endorsing the McNary-Haugen bill to facilitate the recreational uses of national forest lands.

Raising Game New "Medicine" for Recuperating Patients

Raising game has become a new occupation for patients in six state hospitals and institutions in Missouri, according to the Missouri Game and Fish Commission. Pens and coops for raising pheasants and bobwhite quail have been erected at each institution and patients who are well enough for outdoor work care for the birds. Physicians at the hospitals have commended the plan for its effect upon the mental and physical health of the patients. At the same time the state is assured of a steady supply of game for restocking gameless areas, says the Commission.

Drought-Killed Trees Make Good Farm Construction Lumber

What to do with large trees killed by the drought is a question asked by many farmers who own woodlands. If the timber can be salvaged economically, the United States Forest Service advises cutting it now. If a market cannot be found for this material, it is better to cut it for future use on the farm than to let it go to waste in the woods. Many mature trees have succumbed in some of the drought-stricken sections, and if they can be used now it is better to cut them before they begin to decay. Trees containing saw logs may be good for lumber, and crooked or diseased trees can be used to augment the fuel-wood supply.

"There is always on every farm a need for construction and repair materials," it is pointed out, "and here is a chance to salvage those dead trees and at the same time provide a supply of repair material for years to come. There are many sawmill operators who would be glad to do a little custom sawing. Some of them would take their pay in logs. There are on almost every farm the tools, wagons and work stock necessary to do the logging and hauling.

"Properly stacked and roofed over with the commoner boards, lumber will keep almost indefinitely. Why not cut those trees this winter and have them turned into inch boards, two by fours, four by sixes, and other sizes needed for the upkeep of the farm?"

KNOW OUR BIRDS



Audubon Bird Cards

Post-card size in color from original paintings by Allan Brooks

Reverse side of each card carries an account of the habits and distribution of each bird. Prepared under the supervision of Dr. Frank M. Chapman.

Set No. 1—Fifty Winter Birds of Eastern North America

Set No. 2—Fifty Spring Birds of Eastern North America

Set No. 3—Fifty Summer Birds of Eastern North America

\$1.00 per set, postpaid

Order from

THE AMERICAN FORESTRY ASSOCIATION

1727 K St. N. W. Washington, D. C.

GAME AND FISH DEPEND ON FORESTS AND STREAMS. BOTH ARE DESTROYED BY FIRE. PREVENT FIRES AND SAVE OUR WILDLIFE.

Orders-Inquiries

60 pages
Send for FREE
Can be Secured by MAIL

POLK'S REFERENCE BOOK and Mailing List Catalog

Gives counts and prices on over 8,000 different lines of business. No matter what your business, in this book you will find the number of your prospective customers listed. Valuable information is also given as to how you can use the mails to secure orders and inquiries for your products or services.

Write for Your FREE Copy
R. L. POLK & CO., Detroit, Mich.
Largest City Directory Publishers in the World
Mailing List Compilers—Business Statistics
Producers of Direct Mail Advertisements

Kirkland and Brandstrom to Forest Service

Burt P. Kirkland and Axel J. F. Brandstrom, professors in the College of Forestry, University of Washington, have accepted appointment in the Branch of Research of the Forest Service, according to the director of the Pacific Northwest Forest Experiment Station. The former will hold the title of principal forest economist, and the latter senior forest economist. Both will be engaged upon a study of the economic aspects of forest management and exploitation. Professor Kirkland will continue with the University of Washington until June, but Professor Brandstrom has already commenced his assignment attached to the staff of the Forest Experiment Station. Prior to 1912, Professor Kirkland was supervisor of the Snoqualmie National Forest and since then has been on the faculty of the University of Washington specializing in the field of forest economics. Mr. Brandstrom, after several years of practical experience as a logging engineer, has been for the last four years in charge of the logging engineering instruction at the College of Forestry.

Roadside clearing is conducted by the State Division of Highways. Brush, leaves, grass and debris are removed.

A check of the results recently completed reveals that in twenty-eight counties only seven fires occurred along cleared highways, and in twenty-two of the twenty-eight counties there was not a single fire this year along highways that had been cleared. In nineteen counties where the highways were not cleared, however, there were eighty-nine such fires.

"Virtually all roadside fires are caused by cigarettes or matches tossed carelessly out of automobiles by motorists or their passengers," said Mr. Pratt. "The roadside program has nearly eliminated fires from this cause."

"Before roadside clearing in San Bernardino County, there was approximately one fire to every ten miles of highway in grassland. This year there has not been a single roadside fire in that county where the highway was properly cleared, and this includes the Waterman canyon road, where more than 100,000 cars travel annually."

Roadside Clearing Cuts Fire Loss

Roadside clearing to prevent forest and grass fires is paying big dividends in property saved in California, according to M. B. Pratt, state forester.

Clearing grass and debris from the sides of highways was instrumental in preventing scores of fires in the state and in saving the property owners many thousands of dollars in potential property damage to forests, grain fields, and range, Mr. Pratt said in a recent statement.

Connecticut Receives Gift Forest

The State of Connecticut has received a valuable gift of forest land from Mrs. William H. Hall, of South Willington. The gift includes a tract of 186 acres in the town of Tolland, near West Willington station. The property was accepted by State Forester Austin F. Hawes.

In accordance with the wishes of Mrs. Hall the property will bear the name, "Nye-Holman Demonstration Forest," in memory of her maternal grandparents, Nye, and of her father, Holman.

Go Fishing?

Play Golf?

Ever Hunt?

Ever Wear



Ballard's All Wool?

Jack Miner Does

He knows that Wool is a non-conductor of heat; therefore, keeps body cool in summer and warm in winter.

We Uniform New York State Rangers and Maine Game Wardens.

J. O. Ballard & Co.

Malone, N. Y.

Inquire at Your Clothing Store

FOREST-FIRE DETECTION and FIGHTING EQUIPMENT

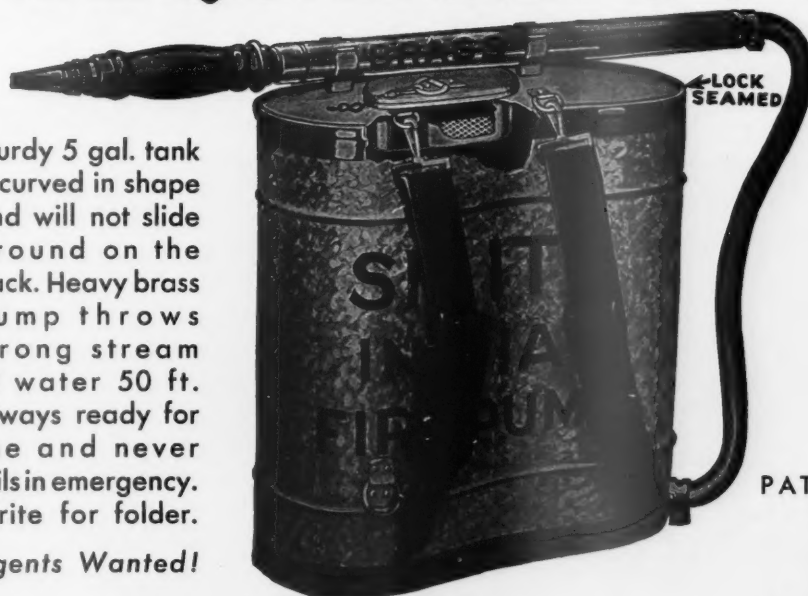
If you do not find just the type you want advertised in AMERICAN FORESTS Address:

Service Department
THE AMERICAN FORESTRY ASSOCIATION
Washington, D. C.

UNEQUALED

Sturdy 5 gal. tank is curved in shape and will not slide around on the back. Heavy brass pump throws strong stream of water 50 ft. Always ready for use and never fails in emergency. Write for folder.

Agents Wanted!



**THE SMITH
INDIAN
FIRE PUMP**



"Tank is Curved to Snugly Fit the Back and Pump Has No Leather Plunger to Give Trouble"

D. B. SMITH & CO. • 405 Main St., Utica, N. Y. • Pac. Coast Agts.—Fire Protect. Eng. Co., 369 Pine St., San Francisco, Calif.

Mention AMERICAN FORESTS—It Helps



Joseph H. Dodson

America's foremost bird authority for 50 years, has written an interesting book, beautifully illustrated with 55 actual photographs.



Queen Anne Martin House

A SIMPLE Way to Bring the Song Birds

"Your Bird Friends and How to Win Them." Tells you how to have birds on your premises the year round—explains styles of houses, baths and shelters they prefer. SEND FOR THIS FREE BOOK TODAY. Birds are useful. They keep the garden free from cut worms, bugs, moths and other destructive insects. Martins feed from the air. One colony will destroy thousands of mosquitoes a day.



Flicker House

Birds Bring Cheer

A medley of bird songs will add to the attractiveness of any home. Naturally, birds go where they are most welcome—have good places to nest, plenty of fresh water and food in sheltered stations for use in times of stress.

JOSEPH H. DODSON, INC.
732 Harrison St. Kankakee, Ill.



Wren House

SCOTTISH TERRIERS

Beautiful stock now ready for delivery. Priced Reasonably.

LOGANBRAE KENNELS

Rutland Vermont



Now is the time to plan Your Spring Planting!

Appalachian Trail Extended

Linking the northern stretches of the Appalachian Trail with the 200-mile trail system inside the Natural Bridge National Forest, in Virginia, the new Afton-Love Trail stretching eight miles along the summit of the Blue Ridge, which here forms the boundary between Nelson and Augusta Counties, will be completed by the Forest Service in about two months. The heart of the Natural Bridge Forest will thus be made more accessible to trappers or horseback riders.

When the work is finished, seventy miles of good path in the Blue Ridge at an altitude of around 3,500 feet will have been added to the rapidly extending Appalachian Trail, which eventually will traverse the eastern mountain system of the United States from end to end. This seventy miles is in a region noted for scenic values. It winds about summits as high as 4,220 feet, and affords splendid views of the Shenandoah Valley to the west and glimpses across the richly colorful Piedmont country of Virginia to the east. Local people have translated Piedmont into Pied Mont, or "tinted hills."

Drugged Bullets to Capture Deer for Restocking

Drugged bullets, producing sleep instead of death, may solve the problem of how to capture deer in overcrowded sections of the country for shipment to other sections and states where deer are scarce.

Major Barnett Harris, African big-game hunter and inventor of the drugged, or hypodermic bullet, has established headquarters at Alpena, Michigan, waiting for the first heavy snows to drive the deer into their yarding grounds so that he can test the bullet's effect on these animals, according to the American Game Association. His experiments will be carried on under the direction of the Michigan Conservation Department.

Major Harris has already tried his invention successfully on big game in Africa. His tests in the Michigan area of heavy deer concentration during the yarding-up period will be directed toward ascertaining the type and amount of drug necessary to bring temporary insensibility without serious injury to the deer. The

bullet does not penetrate, but injects the drug on the hypodermic principle.

Conservation and park authorities of the country are watching the experiment in the hope that it may furnish a solution to an increasingly trying problem now facing game restoration projects in several parts of the country.

While most of the country is confronted with shortage or actual extinction of big game, other sections, notably Pennsylvania, portions of Michigan, the Kaibab National Park, in Arizona, and the floor of Yosemite National Park, are losing thousands of deer yearly from overcrowding and starvation.

Heretofore, shipping deer from one region to another for a more even distribution has been found impracticable because of the expense of trapping them, and the fatalities resulting.

The drugged bullet, if it will enable hunters to fire at a deer and put it quietly to sleep, may supply an effective remedy and aid in a rapid, nation-wide restoration of big game.

Law Violations in Montana and Idaho

Fines amounting to \$3,349 were imposed by local courts during 1930 for law violations on the National Forests of Montana and Idaho, according to the United States Forest Service.

In addition to this sum \$22,343.82 was collected as reimbursement for money spent in fighting fires which threatened to spread from private property to National Forest land. This conforms to the state and Federal laws allowing rangers or fire wardens to hire labor necessary to quench fires on private lands which threaten adjoining property and charge the cost to the owner of the land on which the fire starts or spreads.

For grass trespasses in the states the Forest Service received \$1,069.33. A part of this sum was the net balance after paying the expenses of impounding and selling unclaimed wild horses.

The report shows that convictions were secured in ninety-one cases out of a total of 104 prosecuted. Forty-three of these were for violations of the fish and game laws, seven for trespasses against personal property, and fifty-four for violations of state and Federal fire laws.

Connecticut Forest and Park Association Builds Trails

At the annual meeting of the Connecticut Forest and Park Association held in Hartford on February 7, Mr. Edgar L. Heermance, Chairman of the Association's Trail Committee, reported the construction of over eighty miles of forest trails in the State. All these trails were marked with standard blue blazers. State Forester Austin F. Hawes presented a plan whereby losses from forest fires during unusually hazardous seasons may be controlled. During last spring, according to Mr. Hawes, over 50,000 acres of Connecticut forest lands were burned over.

Officers for the coming year were elected, as follows: President, Theodore S. Woolsey, New Haven; Vice President, Goodwin B. Beach, Hartford; Treasurer, Charles W. Whittlesey, New Haven, and Secretary, Robert M. Ross, New Haven.

M. J. Riordan Dies

Michael J. Riordan, well-known Arizona lumberman and friend of Fernow, Pinchot, Curran and many others who pioneered the National Forests, died recently at Rochester, Minnesota. He was sixty-two years old. Always a friend to forestry and a lover of trees, particularly rare trees, he contributed generously to their cause, and his rare collection of woods was outstanding.



THE ACME PROJECTOR PROMOTES FORESTRY

To broaden the scope of its educational work, The American Forestry Association has assembled a fleet of fully equipped trucks with which to tour the country. The Acme Portable Projector is an important part of this equipment.

The Acme Portable Projector is ideally adapted to the work of The American Forestry Association. Light in weight, stronger by comparison than any other portable projector, it is ready to function by plugging into nearest electric socket. The projection is always clear and smooth flowing. The exclusive Gold Glass Shutter enables the film to be stopped at any point for detailed inspection and discussion without any danger of fire. It is also equipped with a stereopticon attachment for the showing of slides, charts, etc.

A demonstration of the Acme Portable Projector with a typical educational film will reveal its unlimited possibilities as an aid to forestry education.

Send for booklet number PA 3.

ACME DIVISION

International Projector Corporation

90 Gold Street, New York City

Damaged Shade Tree Valued at \$2,000

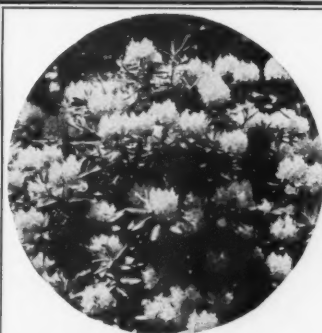
A suit has been filed in Washington, D. C., asking \$2,000 for damages from the Washington Gas Light Company for the death of a tree. Negligence on the part of the company is charged. The tree, described as of great shade and ornamental value, was killed, it was claimed, by a trench dug close to its roots.

Map Forests from Air in Northwest

To aid in making forest "type maps" as a part of the study of forest resources in the Northwest, the United States Forest Service recently took airplane pictures of a large portion of the Siuslaw National Forest and also part of the privately owned lands in Clackamas County, Oregon, and Island and San Juan Counties, Washington. These pictures, taken obliquely, show a considerable area of country. Rangers and other forest officers are plotting the exact location of all known points on the prints and field mappers are using them as guides in determining the boundaries of different types of forest. The particular status of the type as regards age of trees and density of stand is determined by ground work.

Duck Speed

A mallard duck, banded on November 23, 1930, at Big Suamico, Green Bay, Wisconsin, was killed five days later near Georgetown, South Carolina, according to a report to the United States Biological Survey. This is a record for individual speed of migration, the Bureau says.



Bring the glory of the hills to your home

NOTHING is more beautiful than the glorious spring blooms of Rhododendrons and Azaleas—modest white, soft orchid pink to orange yellows. Our nursery-grown native Rhododendrons can come to you at very reasonable prices. Catalog on request.

Special offer for \$25 includes 12 plants, 1 to 3 feet high, ten different, enough to cover 25 to 40 sq. feet. The blooms are from white to orange, April to July—a wondrous series of blossoms.

La Bars' broad-leaved evergreens call for no maintenance expense. Cold will not kill them. They blend with all forms of architecture. Our nursery-grown stock conserves native forests.

Price for this superior collection only \$25, packed, f. o. b. Stroudsburg. Please send check with order.

Each plant marked and guaranteed true to name. We have the largest Rhododendron nursery in America.

Visitors welcome to nursery. Write for full list of shrubs in this offer.

LA BARS' RHODODENDRON NURSERY
Box A
STROUDSBURG, PA.



FOREST TREES OF THE DISTRICT OF COLUMBIA

A handy pocket-size book of 64 pages, containing illustrations and the distinguishing characteristics of 68 of the more common forest trees of the United States. Also gives both the common and scientific names.

Over 8,000 copies have been sold—80 cents, postpaid

THE AMERICAN FORESTRY ASSOCIATION

1727 K STREET N. W.

WASHINGTON, D. C.

Read About the SIBERIAN ELM

(ULMUS PUMILA, Hardy Northern Strain)

The newly discovered wonder tree of rare beauty and rapid growth



The photograph shows a Siberian Elm only 5 years from planting a whip. This beautiful shade tree grows virtually twice as fast as the Maple and American Elm.

THIS home shade tree offers quick results. It develops the full shape of the Norway Maple, with rich, green, clean-cut foliage, at an astonishing rate of growth. It grows twice as fast as the Maple and American Elm.

The Siberian Elm will thrive under conditions of soil and exposure that would prevent other shade trees from thriving. It will stand intense cold and heat. It will flourish in "poor soil." It is not attacked by the usual shade tree diseases.

If you want to have lovely shade trees about your home—if you want to have a tree-lined street—if you want to in-

crease the value of bare lots by surrounding them with fine shade trees—the Siberian Elm offers a new way. With this remarkable tree you will not have to wait years for results. You will experience the pleasure of seeing a whip turn into a tree the very first year.

Here is what the U. S. Department of Agriculture says about the Siberian Elm:

"It is very hardy and has proved valuable under a greater variety of climatic and soil conditions than any tree yet introduced. Very favorable reports have been received from practically every section of the country."

PRICES

5 foot Trees	
1 tree . . .	\$2.50
3 trees . . .	\$7.00
10 trees . . .	\$20.00
6 to 8 foot Trees	
1 tree . . .	\$4.00
3 trees . . .	\$10.00
10 trees . . .	\$30.00

If you prefer a fully prepaid shipment add ten per cent to the above prices for delivery.

EVERY TREE GUARANTEED TO LIVE

Any Guild Tree which fails to flourish will be replaced without cost to the planter within one year.

MAIL THIS COUPON FOR A TRIAL TO

THE LIVING TREE GUILD, Dept. 43,
National Headquarters for Guaranteed Living Trees,
468 Fourth Avenue, New York, N. Y.

You may send at the right time for planting
Siberian Elms, size If my check is not enclosed
you may deliver C. O. D.

Name

Address

City State

For Reforestation**Plant****NORTHERN GROWN
EVERGREEN TREES****and Certified Tree Seed**

from

**Cupsuptic Nursery, in the
Rangeley Lake Region**

Exceptionally fine stock of Norway and White spruce, Red, White and Scotch pine at attractive prices. Put idle acres and barren spots to work. This is an opportune time to carry out Reforestation Plans. Reliable stock and labor are available at low cost. Plant this year and help relieve the unemployment situation. Trees certified by State Horticulturist to be free from disease and insects.

Write for price list and further details.



Desk BA

FOUNDED 1852

BERLIN, N. H.

Home of Certified Tree Seed

American Woods

A collection of actual wood sections (showing end, quarter and flat grains of each species), with text, telling uses, properties, distribution, etc. The plates in which the thin sections are mounted are removable for examination.

Issued in 14 volumes, 25 species in each. \$10 and \$15 per vol., according to binding. Send for list of species in each volume.

Lantern and Microscope Mounts
of Woods, Tree Studies for
Lantern, etc.

Handbook of Trees

The 891 illustrations enable one to identify all of the trees east of the Rocky Mountains and north of the Gulf States at any season.

\$8 and \$15, according to binding.

Write for further information

ROMEYN B. HOUGH CO.
Lowville, N. Y.

THE FOREST SERVICEBy **DARRELL H. SMITH**

(Service Monograph No. 58)

This volume deals with the Forest Service as an integral part of the United States Government structure, showing its origin, growth, accomplishments, present duties, and how they are performed.

\$2.00

BROOKINGS INSTITUTION, Washington, D. C.**Tree Surgery Supplies**

Galv. Lag Screws, Woodscrew Bracing,
Nuts, Washers, Cable, Saws, etc.
"Sealtite" Tree-wound Dressing

ROLLIN H. TABOR CO.
Mt. Vernon, Ohio

Book News

and

**Reviews**

ANIMAL LIFE OF YELLOWSTONE NATIONAL PARK, by Vernon Bailey. Published by Charles C. Thomas, Baltimore, Maryland. 231 pages. Illustrations. Price \$4.

The value of Yellowstone National Park as a refuge for the vanishing species of wild life, is the message of this splendid and beautiful book. The author, chief field naturalist of the United States Biological Survey, has written with the sincere purpose of having the great educational features of the wild life in Yellowstone appreciated. He speaks with authority, and his material is based upon trips he and other well-known men have made through Yellowstone. It is a book of permanent value. —P. V. G.

Many worthwhile suggestions for home owners are incorporated in a new booklet, "How to Judge Furniture" prepared by the National Committee on Wood Utilization of the Department of Commerce.

"Silvicultural Experiments at Sapoba, Nigeria," by R. St. Barbe Baker—A pamphlet telling of the experiments which were initiated in 1926 with a view to discovering the best systems and cultural operations for perpetuating the indigenous forest.

ELEMENTS OF PLANT SCIENCE, by Charles J. Chamberlain. Published by McGraw-Hill Book Company, Inc., 370 Seventh Avenue, New York. 394 pages. Illustrated. Price, \$1.90.

The author, professor of botany, University of Chicago, has supplied a text for both the junior and intermediate student of botany, and in a form for study with and without the use of microscopes. The first part is devoted to the structures and functions of seed plants and is written with the view of instructing the beginner. The studies given in this section may be made without the aid of the microscope.

The second part assumes that each student has the use of a microscope, and comprises advanced lessons in the study of a series of plants, their life histories, and the progress from the lowest and simplest up to the highest and most complex.

Two chapters are devoted to laboratory studies and methods and include suggestions for practical procedure in making permanent microscopic slides. The book, together with laboratory work, should prepare the student for advanced work in most phases of plant science.—D. H.

Issued at Tallahassee, Florida, as Bulletin No. 3 by the Florida Forest Service, "Possibilities of Pulp and Paper Making In Flor-

ida," by Harry Lee Baker and William L. Wilson, sets down the result of an investigation to determine the possibilities of pulp and paper making in Florida. It is full of information of value to land owners in the State, the pulp and paper industry and all who are interested in the industrial development of Florida.

Suggested Conservation Programs, compiled by George Lee Dally, Bulletin No. 4 of the Florida Forest Service, Tallahassee, Florida.—Programs, poems and plays which may be used by clubs and schools as a part of Arbor Day or forestry activities.

AMERICAN WATERFOWL, by John C. Phillips and Frederick C. Lincoln. Houghton Mifflin Company, Boston, Massachusetts. Price, \$4.50.

This book comes to meet a very real need, for the authors—as expert diagnosticians—have here set down clearly the many factors entering into the problem of wildfowl conservation and propagation. And they show it to be a collective problem, which must be met collectively. The dependence of the sportsmen in one locality upon an understanding of their problems by those in another is clearly brought out and the necessity for a long view in this conservation problem stressed. By such a sympathetic understanding and co-operation this problem can be dealt with, adverse factors eliminated and the well-to-do sportsman brought to a realization of his individual responsibility in a national way.

Dealing directly with our waning wildfowl supply, the authors tell of breeding areas, wintering grounds, migration, drainage and irrigation, shooting—when it enters as an adverse factor—oil and other water pollution, poisons and diseases as affecting the game birds. An appendix carries a list of the wildfowl of North America, with interesting pertinent facts.

Beautifully made, the book is illustrated fully with maps, and drawings from life by Allen Brooks. An especially attractive touch is the reproduction of an old duck-shooting lithograph, done by Currier in 1854.—L. M. C.

Forest Plantations at Biltmore, North Carolina, by Ferdinand W. Haasis, Miscellaneous Publication, Number 61, United States Department of Agriculture.—The results of planting and seed-growing operations begun about forty years ago on an area of approximately three thousand acres in the vicinity of Asheville, North Carolina. While technical in character, the text and illustrations will prove interesting reading to any one interested in forest planting.

THOSE AMONG US YOU SHOULD KNOW

The daily story of the forests is closely linked with names—personalities who are pointing the way in the various phases of the outdoors. Forestry, wild life and related fields all have their great and near great, and it is to better acquaint the public with these interesting people—men and women whose names are familiar—that this feature is conducted every month.

TWENTY-FIVE years ago less than a dozen states throughout America had set up forestry organizations for the administration and protection of forest land within their boundaries. Among the first of these was Maryland, which organized in 1906. A Board of Forestry was created and F. W. Besley, whose tree-planting activities in the Pike's Peak area, in Colorado, had attracted considerable attention, was offered the office of State Forester. He accepted and today has the record of longest



F. W. Besley, of Maryland, dean of the group of State Foresters.

continuous service of any State Forester in the United States, having served Maryland in that capacity for twenty-five years.

Under his direction, and starting from a small beginning, the Maryland Forestry Department has steadily advanced, keeping abreast of the most progressive states in meeting their particular forest needs. And while he was building a sound and progressive organization Mr. Besley became an active student of National Forest problems, taking part in the shaping of policies and plans for the protection and management of the nation's forest properties. In addition to his office of State Forester, he is head of the Department of Forestry at the University of Maryland. He has served on a number of important commissions and boards and is now a member of the Maryland Development Commission. He is a senior member of the Society of American Foresters and was formerly president of the Association of State Foresters and the Yale Forest School Alumni Association. For the past seven years he has been a director of The American Forestry Association.

Mr. Besley, a native of Virginia, received

his A.B. Degree from the Maryland Agriculture College in 1892 and his M.F. Degree from the Yale Forest School in 1904. Immediately upon his graduation from Yale he was engaged by the United States Forest Service as forest assistant and assigned to forest nursery and forest planting operations on the Nebraska Forest Reserve, in Nebraska. The forest nursery at Halsey was the largest in the country at that time. In 1905 Mr. Besley supervised the planting of nearly 400,000 trees in the sand hills of Nebraska. Later in the same year he was assigned to nursery and planting operations in the Pike's Peak area of Colorado, where he established two experimental nurseries and conducted experimental planting in the Pike's Peak Forest. He then made a number of studies of watershed conditions in the forests from which the cities of Denver, Colorado Springs and Pueblo get their water supply. In 1906 he was assigned as special forestry lecturer in the farmers' institutes of Colorado. Then he accepted the office of State Forester of Maryland and began a career which has carried him to a record for continuous service and the enviable position as dean of the State Foresters in the United States.

Pennsylvania Birds Killed

Thousands of birds are killed each year in Pennsylvania by telephone wires, buildings and automobiles, all barriers in the way of their flight, according to a recent survey. Actual count revealed many game birds had been killed in this manner, and more than 250 were recovered in 1930, including grouse, pheasants, quail, woodcock and snipe.



"Give me a PLUMB"

says America's Champion Chopper

"**G**IVE me a Plumb Axe, and I'll challenge any chopper in America," says Peter McLaren, America's Champion Chopper.

"A Plumb has speed. It saves me one minute in a five-minute chop. A Plumb is hard and tough, takes a keen edge and holds it. And, it is balanced so that all my force goes into the blow."

NEW!

Plumb's Cruiser's Axe—a lightweight, double bit axe (2 1/4 lb. head, 28-inch handle) for sportsmen, guides and foresters. More efficient than a belt axe.



For Every Axe User

Peter McLaren, America's Champion Chopper, gives hundreds of suggestions on axe care and axe use in his new Axe Manual. Eighty-four pages—well-bound. Mail 25c for copy to FAYETTE R. PLUMB, Inc. 4840 James Street Phila., U.S.A.

Beauty that is a joy forever

YOUR home. Can't you imagine the added beauty and value it would possess with an appropriate setting of Evergreens? Rare charm, indeed; and with the passing of the years it becomes still more beautiful and valuable. That's the secret of Evergreen popularity.

Hill's Evergreen catalog for 1931 is now ready. By far the most comprehensive ever produced, it contains a rich fund of useful Evergreen information—with 50 illustrations in full colors.

HILL'S EVERGREENS



In choosing Hill's Evergreens for foundation planting, or as a colorful screen or garden setting, you choose wisely. For here at Hill's, in our 600-acre nursery, we grow nothing but Evergreens—and this we have been doing for the past 75 years! In writing for our 1931 book enclose 25c (coins or stamps), which will be refunded on any order you send us.



D. HILL NURSERY CO. ::
LARGEST GROWERS IN AMERICA

Evergreen Specialists
BOX 501 · DUNDEE, ILL.



Only a handkerchief

BUT it was no joking matter to the bride. Someone had stepped on her "going away" handkerchief. The rare little bit of handed-down lace was crumpled and soiled. And it had to be washed with infinite care. Could we? We could and did.

We rather pride ourselves on our ability to take care of our guests. You'll find it reflected in rooms that have closets big enough to hold *all* your clothes—in *every* appointment which a hotel worthy of the name provides. But what you'll be sure to notice is a spirit of *extra* service, in all the little things which United Hotel employees are taught to take the time to do well!

Extra service at these 25 UNITED HOTELS

NEW YORK CITY's only United . . . The Roosevelt
PHILADELPHIA, PA. The Benjamin Franklin
SEATTLE, WASH. The Olympic
WORCESTER, MASS. The Bancroft
NEWARK, N. J. The Robert Treat
PATERSON, N. J. The Alexander Hamilton
TRENTON, N. J. The Stacy-Trent
HARRISBURG, PA. The Penn-Harris
ALBANY, N. Y. The Ten Eyck
SYRACUSE, N. Y. The Onondaga
ROCHESTER, N. Y. The Seneca
NIAGARA FALLS, N. Y. The Niagara
ERIE, PA. The Lawrence
AKRON, OHIO The Portage
FLINT, MICH. The Durant
KANSAS CITY, MO. The President
TUCSON, ARIZ. El Conquistador
SAN FRANCISCO, CAL. The St. Francis
SHREVEPORT, LA. The Washington-Youree
NEW ORLEANS, LA. The Roosevelt
NEW ORLEANS, LA. The Bienville
TORONTO, ONT. The King Edward
NIAGARA FALLS, ONT. The Clifton
WINDSOR, ONT. The Prince Edward
KINGSTON, JAMAICA, B.W.I. The Constant Spring



Conservation Calendar in Congress

This monthly feature is a service to the members of The American Forestry Association

BILLS PASSED

- S. 196—Nye—Providing for the uniform administration of National Parks by the Department of the Interior. Passed Senate May 7. Passed House January 21. Approved January 26. Public Law No. 574.
- S. 4149—Kendrick—To add certain lands to the Ashley National Forest in Wyoming. Passed Senate June 25. Passed House January 21. Approved January 26. Public Law No. 571.
- H. J. Res. 200—To permit acceptance of donation of land for pecan experiment station in Caddo Parish near Shreveport, Louisiana. Passed House April 7. Reported to Senate January 21. Report No. 1340. Passed Senate January 26. Approved January 26. Public Resolution No. 116.
- H. R. 233—To approve the action of the War Department in rendering relief to sufferers of the Mississippi River flood in 1927. Passed House June 11. Passed Senate January 26. Approved January 31. Public Law No. 576.
- H. R. 12404—Leavitt—To amend the Act of April 9, 1924, so as to provide for National Park approaches. Passed House January 14. Passed Senate January 26. Senate amendments agreed to by House January 27. Approved January 31. Public Law No. 592.
- H. R. 10782—Haugen—To facilitate and simplify the work of the Forest Service. Passed House June 24. Passed Senate January 26. Approved January 31. Public Law No. 589.
- H. R. 15008—Summers—To extend the boundaries of the Mount Rainier National Park in the State of Washington. Passed House January 14. Passed Senate January 26. Approved January 31. Public Law No. 584.
- H. R. 15592—Wood—First Deficiency Appropriation Bill. Passed House January 7, 1931. Passed Senate amended January 22. Sent to conference January 26. Approved February 6. Public Law No. 612.
- S. 5776—Wagner—Provide for the advance planning and regulated construction of public works, for the stabilization of industry, and for aiding in the prevention of unemployment during periods of business depression. Passed House February 2. Passed Senate January 21. Approved February 10. Public Law No. 616.
- H. R. 14675—Cramton—Interior Department Appropriation Bill, fiscal year 1932. Reported to House December 8. Passed House December 12. Reported to Senate December 16. Passed Senate with amendments January 21. Approved Feb. 14. Public Law No. 666.
- H. R. 13249—Glover—To authorize the acceptance of a tract of land adjoining Hot Springs National Park, Arkansas. Passed House January 21. Reported to Senate January 28. Report No. 1387. Passed Senate February 10. Approved February 14. Public Law No. 651.

APPROPRIATIONS

- H. R. 15256—Dickinson—Agricultural Appropriation Bill, fiscal year 1932. Reported to House December 16. Passed House Decem-

ber 19. Reported to Senate January 14. Report No. 1268. Passed Senate January 23. Sent to conference February 6 and reported February 17.

House Document No. 730—Second Deficiency Bill.

H. R. 14450—S. 5079—S. 4783—Emergency Construction Bills. All referred to Committee on Appropriations. S. 5440—Robinson—Referred to Committee on Agriculture and Forestry. S. Res. 338—Thomas.

S. 4586—McNary—To authorize additional appropriations for the national arboretum. Passed Senate June 27. Reported to House February 4. Report No. 2482. H. R. 12717—Luce—Bill similar to above. Hearings were held January 12, and have been published.

CONSERVATION

H. R. 14061—Summers—Authorizing compacts among states for agricultural and conservation purposes. Referred to Committee on Agriculture December 2.

S. 3557—McNary—For acquisition and sale of certain timberlands to Oregon for recreational and scenic purposes. Passed Senate June 11, 1930. Reported to House June 18. Recommended January 5.

FORESTRY

S. 4167—McNary—Fire trespass regulations for Coos Bay wagon-road lands. Reported to the Senate January 21. Report No. 1336. Passed Senate January 26.

S. 5407—McNary—To enable coordinated Federal effort to meet emergencies caused by forest-destroying insects and diseases. Referred to Committee on Agriculture and Forestry December 17. H. R. 15602—Leavitt—Bill similar to above.

H. R. 14909—Englebright—To add certain lands to the Modoc National Forest in California. Referred to Committee on Public Lands December 10.

S. 5810—McNary—To facilitate the use and occupancy of national-forest lands for purposes of recreation, residence, education, industry, and commerce. Reported to Senate February 3. Report No. 1448. H. R. 16336—Haugen—Bill similar to above. Hearings held on this bill February 6.

H. R. 13547—Swing—To safeguard the validity of permits to use recreational areas in the San Bernardino and Cleveland National Forests. Reported to House January 12. Report No. 2233. Passed House January 14. Reported to Senate January 28. Report No. 1388. Passed Senate February 10.

H. R. 16158—Green—Providing for the purchase and maintenance of certain lands and timber in Florida, and elsewhere, by the Department of Agriculture for research purposes in making a study of naval-stores production from pine trees. Referred to Committee on Agriculture January 14.

H. R. 15270—Lankford—Authorizing the Secretary of Agriculture to establish and maintain in the naval-stores section of the United

States a pine forest products laboratory. Referred to Committee on Agriculture December 16.

H. R. 16078—Leavitt—To amend the act approved June 2, 1930, providing for a memorial to Theodore Roosevelt for his leadership in the cause of forest conservation. Passed House February 2. Reported to Senate February 5. Report No. 1484. Passed Senate February 10.

INDIAN AFFAIRS

S. 4828—Thomas—Authorizing the President to appoint a commission to study, report, and recommend on a Government policy in relation to the American Indians. Referred to Committee on Indian Affairs December 2.

S. 5206—Thomas—Authorizing the President, through the Secretary of the Interior, to study, report, and recommend on a revision and codification of the statutes affecting the American Indians. Referred to Committee on Indian Affairs December 9. H. R. 15498—Leavitt—Bill similar to above. Passed House February 4.

MISCELLANEOUS

H. R. 11968—Swing—To reserve for public use scenic rocks, pinnacles, reefs, and small islands along the seacoast of Orange County, California. Passed House January 21. Reported to Senate February 9. Report No. 1552. Passed Senate February 10.

H. Res. 323—Black—Providing for the appointment of a Committee on Economic Planning. Referred to Committee on Rules December 17.

S. Res. 351—Steiwer—To direct the Secretary of the Treasury to investigate the extent to which convict labor is used in the manufacture or production of timber products in any territory subject to the jurisdiction or control of the Union of Soviet Socialist Republics, and to report thereon to the Senate at the earliest practicable date. Ordered to lie over under the rule December 3.

S. Res. 354—King—To conduct a thorough investigation regarding antitrust laws. Referred to Committee on the Judiciary December 4.

S. 5753—Thomas—Authorizing the Secretary of Agriculture to issue permit to the Izaak Walton League of America to enter the Wichita National Forest and Game Preserve to make and submit plans for the development of a memorial commemorating the achievements of said Izaak Walton League of America. Referred to Committee on Public Lands and Surveys January 16.

S. Res. 379—Walsh—To inquire into the charges regarding oil-shale lands of the United States. Referred to Committee on Public Lands and Surveys December 19. Hearings held February 5, 6, 10 and 12.

H. R. 15002—Eaton—Concerning oil-shale lands. Reported to House February 6. Report No. 2537.

S. 4848—Oddie—To prohibit the importation of any article or merchandise from the Union of the Soviet Socialist Republics. Referred to Committee on Finance December 2. H. R. 16035—Williamson—Bill similar to above.

H. R. 1209—Allgood—Conveying certain lands to the State of Alabama for vocational or other educational uses. Reported to House December 11. Report No. 2094. Passed House January 5. Reported to Senate February 13. Report No. 1601. Passed Senate February 17.

H. R. 15423—Carter—To provide for plant and cereal patents. Referred to Committee on Patents December 18.



RED PINE Transplants

5 Years Old

12 to 18 Inches Tall

Specially Priced at \$20 per 1,000

Regular \$25.00 Value

Splendid sturdy stock, grown in our own nurseries. Ideal for roadside planting, for windbreaks, or for any place where quick results are desired. Also excellent stock for forest planting. Shipped anywhere.

WHITE PINE Twice Transplanted

5 Years Old

6 to 12 Inches Tall--Bushy

A Big Value at \$16 per 1,000

These trees are all stout stock and Government Certified blister rust free. Can be shipped to following locations only: Anywhere in New England, New York State, New Jersey, Pennsylvania, Michigan, Minnesota, and Wisconsin.

Send remittance with all orders.

WESTERN MAINE FOREST NURSERY

Dept. A-3

FRYEBURG, MAINE

Timber and Log Scale Sticks

Designed especially for Loblolly and Shortleaf Pine.

Each set consists of two Sticks in a heavy canvas container and a 16-page booklet giving complete instructions for use.

\$1 a Set, postpaid

The American Forestry Association

1727 K Street N. W.

Washington, D. C.



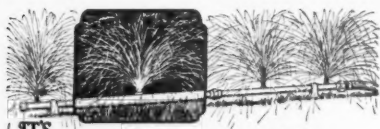
AND

KISER'S HAND-COLORED-IN-OIL PHOTOGRAPHS, "NATIONALLY KNOWN, NATIONALLY SOLD"

Descriptive Price List of Subjects Mailed on Request

These Two Distinctive Picture Lines Now Sold Exclusively by Mail Through
THE AMERICAN FORESTRY ASSOCIATION
Picture Division

1727 K STREET N. W., WASHINGTON, D. C.



IT'S LESS WORK WITH A Shower Pipe

Easiest and quickest way to water your lawn or garden. No need to waste summer evenings holding a hose. A Shower Pipe puts an end to this tedious work. Eight feet long (two 4-ft. sections) with four sprays. Sprinkles a 10 x 20 ft. area. Reaches every nook and corner. Does away with all hand-watering. A modern sprinkler for the busy man. No moving parts to wear out. Buy a Shower Pipe and you'll never have to buy another sprinkler. Thousands in use. Guaranteed. Low priced. Write for circular.

WHITE SHOWERS, INC.
6467 Dubois St., Detroit, Michigan
Irrigation equipment of all kinds

Blowers' Tree Service

MEANS

Scientific and practical care and treatment of trees.

Now centering efforts on treating of box-woods, combating the Nectria Canker.

Experienced crews available for tree surgery, spraying, planting and general landscape work. Also have thousands of good nursery grown Trees, Vines and Plants.

Information free. Address

F. E. BLOWERS, East Norwich
Nassau Co., L. I., N. Y. Tel. 467 Oyster Bay

Henry Vaughn Eames

TREE SURGEON

ARBORITE
TREE FOOD

1703 LEFCOURT BLDG.
NEWARK, N. J.



THE CLIMBING FERN
(*Lygodium palmatum*)

THE BEAUTY OF HARDY FERNS

Cannot be described by any words at my command. You know how it is sometimes impossible to say what you feel. But these Ferns—we have an immense supply of them, great big, waving Osmundas and Ostriches of the rich meadows and woodlands, the Crested Ferns and Sensitive Fern of the swamps, graceful Maidenhair and Bladderfern, Evergreen Wood and Christmas Ferns and tiny Spleenworts and Woodsias that seem about to fall off the rocks, until you discover what a toehold they have.

We want you to have some of these beautiful Native Ferns and make you the following offer, good until May first, 1931:

- 12 Cinnamon Fern
- 12 Maidenhair Fern
- 12 Hayscented Fern
- 12 Christmas Fern
- 12 Berry Bladderfern
- 12 Evergreen Woodfern
- 2 Climbing Fern, the very rare *Lygodium palmatum*.

All the above 74 Hardy Ferns for \$10.00 or one-half the collection for \$5.50, you to pay express charges. If you have not received our 1931 catalog of Evergreens, Shrubs, Roses, Vines, Fruits and Perennials, we will gladly send you a copy.

GEORGE D. AIKEN, Box H, Putney, Vermont

"Grown in Vermont, It's Hardy"

TREE SEEDS FROM THE NEW CROP

Certified as to Origin and Species

WE COLLECT ALL CONIFERS OF THE GULF AND WEST COASTS

Among Special Collections in 1930 Are

ABIES GRANDIS—WASHINGTON
PINUS CARIBAEA—GEORGIA
PINUS ECHINATA—ARKANSAS
LIBOCEDRUS DECURRENS—CAL.

ABIES LASIOCARPA—WASHINGTON
PICEA SITCHENSIS—ALASKA
CHAMAECYPARIS NOOTKE—ALASKA
TSUGA MERTENSIANA—OREGON

The Long-Bell Lumber Company

LONGVIEW,

WASHINGTON

PARKS

H. R. 16116—Colton—To adjust the boundaries and for the addition of certain lands to the Bryce Canyon National Park, and for other purposes. Reported to House January 20. Report No. 2315. Passed House January 21. Reported to Senate January 29. Report No. 1401. Passed Senate February 10.

H. R. 12381—Mrs. Owen—To provide for the establishment of the Everglades National Park in the State of Florida. Reported to House January 17. Report No. 2300. Hearings on this bill were held December 15. Hearings have been published. S. 5410—Fletcher—Bill similar to above. Reported to Senate February 5. Report No. 1485. Passed Senate February 10.

S. Res. 413—Nye—Authorizing and directing the Committee on Public Lands and Surveys to investigate the advisability of establishing certain additional National Parks and proposed boundary revisions of other National Parks. Referred to Committee on Contingent Expenses of the Senate.

S. Res. 341—King—To authorize an increase for construction of roads within National Parks from \$5,000,000 to \$7,500,000 a year. Referred to the Committee on Agriculture and Forestry December 2.

S. 5590—Kean—To establish Sandy Hook National Park in the State of New Jersey. Referred to the Committee on Military Affairs January 8.

H. R. 14997—Hawley—Providing for the creation of a National Park in Marion County, Oregon, to be known as the Silver Creek Falls National Park, and authorizing the appropriation of money therefor. Referred to the Committee on Public Lands December 11.

S. 6092—Norbeck—To convey certain lands to the State of South Dakota for public-park purposes. Reported to Senate February 9. Report No. 1559. Passed Senate February 10. H. R. 16914—Williamson—Bill similar to above.

H. R. 8534—Hall—For the transfer of jurisdiction over Sullys Hill National Park from the Department of the Interior to the Department of Agriculture, to be maintained as the Sullys Hill National Game Preserve. Reported to House June 23. Report No. 2014. Passed House January 14.

H. R. 16855—Fish—For the creation of a National Park to be known as Temple Hill National Park, in the town of New Windsor, Orange County, New York. Referred to Committee on Military Affairs February 4.

S. 5248—Norbeck—To extend the boundaries of Wind Cave National Park, South Dakota, by adding thereto an area of 320 acres. Reported to Senate January 31. Report No. 1431. Passed Senate February 10. Reported to House February 13. Report No. 2646.

REFORESTATION

S. J. Res. 183—Bingham—Providing for the protection of forest lands. Reported to Senate July 1. Report No. 1143. Passed Senate January 26. Passed House February 16. H. J. Res. 284—Houston—Bill similar to above. Reported to House January 27. Report No. 2398.

S. J. 132—Bingham—Reforestation in Porto Rico. Reported to Senate January 14. Report No. 1298. H. J. Res. 192—Davila—Bill similar to above. Reported to House January 27. Report No. 2395. Passed House February 16.

RELIEF MEASURES

S. J. Res. 234—Smith and George—Making applicable for the year 1931 the provisions of the act of Congress approved March 3, 1930, for relief to farmers in the flood and or drought-stricken areas. Reported to Senate January 15. Report No. 1323. Passed Senate January 21.

S. 5439—Wheeler—To excuse certain persons from residence upon homestead lands during 1929 and 1930 in the drought-stricken areas. Reported to Senate January 21. Report No. 1335. Passed Senate January 26. Reported to House February 17. Report No. 2696.

S. J. Res. 210—Capper—Distribution of surplus wheat for relief purposes. Reported to Senate January 21. Passed Senate January 26.

WATER AND STREAM CONTROL

H. R. 16657—Sears—To conserve run-off, or flood waters, of the nation in the interests of agriculture and for other economic uses. Referred to Committee on Agriculture January 28. Hearings held February 6.

H. R. 11969—Swing—Withdrawal of certain public lands from entry for the protection of watershed for Los Angeles, California. Reported to House January 20. Report No. 2313. Passed House January 22.

H. R. 16742—Crosser—To relieve unemployment by providing for the building of check dams and other structures to prevent soil erosion, gullying, floods, and drought by retarding run-off on watersheds and causing the waters to soak into the ground in order to replenish springs and wells and to restore subsoil moisture. Referred to Committee on Agriculture January 30. Hearings held February 6.

H. R. 16888—Moore—Providing for the establishment of the checkdam system to prevent loss from drought, erosion, flood, increase the water supply, et cetera. Referred to Committee on Agriculture February 5.



NURSERIES



"It Isn't a Home Until It Is Planted"



Nut Trees

"Dual-Purpose Trees"

Plant grafted nut trees for early bearing and fine quality nuts. Enjoy their shade in summer and the nuts during the winter months. Catalog free on request. Plant this spring.

(40 years growing nut trees)

J. F. JONES NURSERIES

P. O. BOX 356 LANCASTER, PA.

Trees for Forest Planting

PINE & SPRUCE

Firs, Arborvitae and Other Conifers. We raise all our trees in our own nurseries

KEENE FORESTRY ASSOCIATES
KEENE, NEW HAMPSHIRE

Evergreen Nursery Stock For All Purposes

Pine, Spruce, Fir, Cedar

Our stock is thrifty and sturdy
Prices reasonable
Write for catalogue

CENTRAL MAINE FOREST NURSERY
SKOWHEGAN, MAINE

BRISTOL'S TREES

Northern-grown, Hardy Evergreens

Forest and Ornamental Stock
especially Red Pine

H. R. BRISTOL, Plattsburg, N. Y.

Hardy English Walnut Trees
For Spring Planting

Write for new, low prices to

D. N. POMEROY & SON
LOCKPORT, N. Y.

FRANKLIN FORESTRY CO.

Nurseries at

Colrain and Sudbury, Mass.

FOREST NURSERY STOCK
CONTRACT FOREST PLANTING

89 STATE STREET MASS.
BOSTON

GROW TREES FROM SEEDS

Send for catalogue of tree, shrub, perennial, palm, fruit and evergreen seeds.

CONYERS B. FLEU, JR.
Germantown Philadelphia, Pa.

THE TINGLE NURSERY CO. PITTSVILLE, MARYLAND

Offer a very large assortment of the New and Old varieties of evergreens, etc., in Lining-Out and Specimen Stock.

A catalog will be sent on request

ORCHIDS, CALANTHES

Any amateur can grow these. Dormant bulbs now ready. Calanthe Veitchii, beautiful pink sprays at Christmas and New Year. Calanthe Mrs. Cornelius Vanderbilt, white. Send for prices and information, also for special list of established orchids.

LAGER & HURRELL

Orchid Growers Summit, N. J.

KELSEY NURSERY SERVICE

(See our Advertisement on the 3rd Cover)

12 DELPHINIUMS \$1.25 Gold Medal Hybrids 25 Plants \$2.40

12 Chinese Delphiniums Dwarf Assrt., \$1. 4 Elegant Lilies erect bright red flowers, \$1. 7 Tiger Lilies red and spotted, \$1. 8 Hemerocallis Lilies Orange shading red, \$1.25. 12 Columbine Assrt., \$1.25. 50 Grand mixed Gladiolas, \$1.25. 10 Hardy Phlox assorted, \$1.50. All orders prepaid—spring shipment. Catalog free. These are special first class stock and bargains for limited time.

Swedberg Bros. Nursery Battle Lake, Minnesota

GLADIOLI

Of the very highest quality, including Mrs. Douglas, Bennett, Minuet, Cath. Coleman, Jane Addams, Crinkles, Golden Dream, etc. Price list to suit the times.

Your name and address secures your copy

SEND IT NOW, PLEASE

E. M. BUECHLY Greenville, Ohio

Boxwood, Rhododendrons, Kalmia Latifolia and Azaleas

in quantities. Also complete nursery stock
Write for catalogue

BLUE RIDGE PARK NURSERIES, INC.
Gainesville, Georgia

Best and Fastest Growing Shade Tree

CHINESE ELM, 4-5 ft. - - \$.98
6-8 ft. - - 1.48

Also Other Trees

Rhododendron (Maximum) 18-24 in. - \$.75
B. & B. 24-30 in. - .98
E. W. JONES NURSERY COMPANY
Woodlawn, Va.

EVERGREENS

FOR ALL PURPOSES

Price List Sent on Request

The North-Eastern Forestry Co.

CHESHIRE CONN.



Japanese Flowering Cherries

FLOWERING APPLE
and CHINESE
MAGNOLIAS

America's finest collection in all varieties and sizes

Send for Free Book

A. E. WOHLERT

930 Montgomery Ave. Narberth, Penna.



5,000,000 Evergreen Seedlings
and Transplants up to 8 feet
Northern Minnesota grown, hardy
and healthy.

Please submit your want list for
quotation. Catalog mailed free.
Wild and Rock Garden Plants.

LUDVIG MOSBAEK

Ferndale Nursery, Askov, Minn.

Plant material for Landscape, Horticultural and Forestry Projects. Choice line of Strong Perennial Plants, Trees, Shrubs, Vines and Evergreens, Lining Out Stock, Native Plant Material
Catalog Upon Request

Long Distance, Naperville No. 1

NAPERVILLE NURSERIES
Naperville, Illinois

Rhododendrons

NATIVES—Three Varieties

Kalmia Latifolia (Mountain Laurel)

Azaleas in variety Pieris floribunda

Leucothoe catesbaei

Send list of wants, stating varieties, quantity
and size for price

MORRIS NURSERY CO.

47 West 34th Street
NEW YORK, N. Y.

Yale School of Forestry

Established in 1900

A graduate department of Yale University, offering a two years' technical course in forestry leading to the degree of Master of Forestry.

Special opportunities are provided for advanced work and research in the laboratories and the school forests.

For further information and catalog address

The Dean of the
School of Forestry

New Haven, Conn., U. S. A.

The New York State College of Forestry

Syracuse University
Syracuse, N. Y.

UNDERGRADUATE courses of four years are offered in forestry leading to the degree of Bachelor of Science. Graduate courses are also offered in several branches of forestry leading to advanced degrees.

The College owns and controls approximately 6700 acres of Experimental Forest Lands in various sections of the State. These forest lands together with the Roosevelt Wild Life Experiment Station at Syracuse, offer excellent opportunities for practical work in forestry.

Experimental equipment for instruction in pulp and paper making, in kiln-drying and timber treating and a portable sawmill are features of the complete equipment of the College.

Catalog will be sent upon request

HUGH P. BAKER, Dean

H. R. 16909—Ketcham—To provide for the control of soil erosion, prevent the silting of navigable waterways, preserve and replenish underground sources of streams, perpetuate water resources, and reduce losses from drought. Referred to Committee on Agriculture February 6.

H. R. 16911—Crosier—To promote interstate commerce, agriculture, and the general welfare by providing for the development and control of waterways and water resources, for water conservation, for flood control, prevention, and protection; for the application of flood waters to beneficial uses; and for cooperation in such work with states and other agencies. Referred to Committee on Rivers and Harbors February 6.

WILD LIFE

S. J. Res. 212—McNary—To coordinate fiscal business of Department of Agriculture and Alaska Game Commission in Alaska. Reported to Senate January 21. Report No. 1339. Passed Senate January 26. Reported to House February 6. Report No. 2539.

H. R. 11285—Sutherland—To amend the Alaska Game Law. Reported to House April 21. Report No. 1242. Passed House January 19. Reported to Senate February 3. Report No. 1447. Passed Senate February 10.

H. R. 14072—Denison—To provide for the protection of birds and their nests in the Canal Zone. Referred to the Committee on Interstate and Foreign Commerce December 2.

H. R. 16044—Leavitt—For the purpose of fencing lands in the United States Range Livestock Experiment Station for the inclusion of game animals. Referred to Committee on Agriculture January 10.

S. 5290—Wheeler—Authorizing the purchase and installation of a mechanical fish screen on the Sun River Canal, in the State of Montana. Referred to the Committee on Commerce December 11. H. R. 15274—Leavitt—Bill similar to above. Referred to Committee on Irrigation and Reclamation December 16.

House Document No. 670—Report of Migratory Bird Commission for the fiscal year ended June 30, 1930.

H. R. 13276—Arentz—A bill to establish the Needles Rocks Wild Life Refuge. Reported to House December 11. Report No. 2095. Passed House January 5.

H. R. 9599—Leavitt—Providing for the eradication, suppression, or bringing under control of predatory and other wild animals injurious to agriculture, horticulture, forestry, et cetera. Reported to House January 27. Report No. 2396. Passed House February 2. Hearings held January 28. Favorably reported by Senate Committee on Agriculture February 10. Report No. 1565.

S. 5813—Walcott, Hawes, McNary, Norbeck and Pittman—To provide for the consideration of wild-life conservation in connection with the construction of public works or improvement projects. Reported by Mr. McNary, without amendment, January 26. Passed Senate February 10.

Forestry in Congress

SENATOR PETER NORBECK and Representative William Williamson, both of South Dakota, introduced in Congress on February 7 companion bills designed to eliminate 40,000 acres of land from the Harney National Forest and to deed it to the State of South Dakota for the enlargement of the Custer State Park, where President Coolidge spent the summer of 1927, and to encompass the Mount Rushmore State Reservation, where Gutzon Borglum is carving a gigantic national memorial. The principle of the legislation proposed by these bills (S. 6092 and H. R. 16914), according to conservationists to whose attention they have come, is held to be a serious threat to the integrity of the National Forests as a whole in that its enactment into law would set a precedent which other states would quickly take advantage of with the result that the National Forest system might eventually be seriously broken into and depleted.

The speed with which Senator Norbeck's bill moved in the Senate served to alarm conservationists of the immediate danger of its passage. Three days after being introduced on the floor of the Senate by Senator Norbeck, the bill had been considered by the Senate Committee on Public Lands and Surveys, reported favorably, and passed by the Senate. The Williamson bill was likewise given immediate consideration by the House Committee on Public Lands and tentatively favored, pending a statement from the Secretary of Agriculture. Mr. Colton, chairman of the committee, however, has agreed to delay final action by his committee until a report on the bill is made by the Secretary of Agriculture.

Announcement has been made by The American Forestry Association that it will vigorously oppose the legislation. It is heartily in favor of the creation of State Parks, but it holds that any legislation which opens the way through precedent or otherwise to piece-

meal dismemberment of the National Forests is detrimental to the public good.

Water conservation and erosion control occupied the attention of the House Agricultural Committee on February 5 and 17, when Representative Willis G. Sears, of Nebraska, and Robert Crosier, of Ohio, described and defended their bills H. R. 16657 and H. R. 16742 to control the run-off on watersheds with particular reference to the Mississippi Valley. The Sears bill would create a board to administer \$750,000,000 while the Crosier bill would use only \$100,000,000 to demonstrate the effective use of contour plowing, earth dams and reservoirs to retard the run-off and direct the course of the waters down into the soil rather than over it.

Taking advantage of the appalling losses related by the two Congressmen, Representative John C. Ketcham, of Michigan, introduced on February 7 a bill based upon the principles of the Clarke-McNary law, to control erosion as forest fires are controlled, through effective cooperation between the Federal Government and responsible state agencies. "Erosion, like fire," said Mr. Ketcham, "is not confined to the property of one man but spreads from one area to another and the damage is cumulative. It differs from fire, however, in that it can be combated in orderly planwise ways rather than as pressing emergencies." The bill, H. R. 16909, would place responsibility for its administration and for spending five million dollars a year in cooperation with the states upon the new Bureau of Agricultural Engineering which is being divided from the present Bureau of Public Roads. Hearings will be held on this and similar bills during the month.

The Agricultural Appropriation Bill, H. R. 15256, passed the Senate on January 23, as agreed to in conference, with increases for forestry and conservation aggregating \$105,520. Soil-erosion investigations which Senator Hiram Johnson of California increased by

amendment on the Senate floor from \$280,000 to \$380,000 was reduced to \$330,000. The increase proposed will be used to expand studies now under way in Idaho and the intermountain region; in California; in Arizona and New Mexico. New work of pressing need would be started in Tennessee, western North Carolina and Mississippi where their waters drain into the Mississippi. Several of the items mentioned in the February report on "Forestry in Congress," including \$75,000 for control of western white-pine blister rust and \$12,500 to maintain a forester among the foreign agricultural attaches, were disallowed, but \$8,000 for forest fire weather studies, \$12,520 for studies in heartrot in hardwood, \$15,000 for silvicultural investigations in North Dakota, \$10,000 for range research in the northern Rocky Mountain region, and \$10,000 for naval stores studies were allowed.

On February 2 recommendations by the Bureau of the Budget for the Second Deficiency Appropriation Bill were transmitted to Congress as House Document No. 730. Items for forestry and conservation aggregate \$4,239,832. For control of white-pine blister rust in the West, \$50,000 is added for the Bureau of Plant Industry and \$150,000 for the Forest Service.

For fighting forest fires in 1930, \$1,270,000 is approved.

Fire-fighting costs on Indian forests exceeded their original appropriation of \$50,000, due to unusual fire damage. The deficiency bill carries an additional sum of \$50,000 to meet the deficiency and to provide \$35,000 for fire protection during the remainder of the fiscal year.

The National Park Service would be given \$156,500 to assure water supplies and construct sewage-disposal and electric power plants in the Mt. Rainier, and Yosemite National Parks and the Wind Cave and Chaco Canyon National Monuments. In addition \$2,500,000 would be added to the regular appropriation for building roads and trails in National Parks so as to bring the total appropriation for this purpose in 1932 to \$7,500,000. To acquire title to the beds of three lakes in Oregon within the Malheur Lake bird reservation \$50,000 would be appropriated.

On February 5 the House Agricultural Committee conducted public hearings on H. R. 16336 to broaden the recreational field of the National Forests. The new bill is a companion to S. 5810, introduced by Senator McNary, reported favorably to the Senate on February 3. The legislation proposed would permit the Forest Service to lease up to eighty acres for home, camp, commercial or scientific purposes for periods not exceeding thirty years. The present law restricts leases to areas of five acres and less. Section 2 of the bill permits the Forest Service to make more adequate plans for the care and reception of its millions of guests.

Following the Florida trip of Senator Nye's Committee on Public Lands during the Christmas holidays, there appeared Senate Report No. 1485 favoring the creation of an Everglades National Park, and on February 10, during an evening session the bill passed the Senate. The Senate and House bills have each been amended to leave out the word "Tropic" in the title, to prevent the Federal Government from accepting title to the proposed park until the entire area has been accepted, and to guarantee the rights of the Seminole Indians.

After a personal visit of the House Committee on Agriculture, on January 13, to the area to be added to the National Arboretum in the northeastern quarter of the District of Columbia the bill, S. 4586, which passed the Senate, was reported favorably to the House on February 2, with Report No. 2482. No further action has been taken on this bill or on its companion H. R. 12717.

The Englebright bill, H. R. 3245, to establish a program of annual appropriations for improvements on National Forests to assure more effective protection from fire, appears to be hung up in the Agricultural Committee. In response to urgent requests from several sources of the country, President Hoover called Representative Englebright, of California, to discuss the bill at the White House on February 11.

Bills introduced during the last session of the present Congress by Senator Norbeck and Representative Scott Leavitt, S. 3483 and H. R. 9599, to provide a ten-year program for the control of predatory animals under direction of the Biological Survey have been heard by both committees on agriculture and favorably reported to their respective houses. The public hearings before the Senate Committee on Agriculture were held on January 29 and 30 and are now available.

Timber Board Committee Meets

The initial meeting of the Advisory Committee created by President Hoover's National Timber Conservation Board to assemble data bearing upon overproduction and related problems in the forest industries was held in Washington February 11. The personnel of the committee is made up of twenty men from different parts of the country, each a specialist in his particular forest field. R. Y. Stuart, Chief of the United States Forest Service, is chairman of the advisory committee. Secretary Lamont of the Department of Commerce, and chairman of the National Timber Conservation Board, at the outset of the meeting sketched briefly the purpose for which the advisory committee had been created.

After full discussion of the problems with which the Timber Board is confronted, the advisory committee agreed upon a form of organization and made tentative plans for the gathering of facts which the board will need in arriving at remedial recommendations for the adjustment of major problems connected with overproduction which has long prevailed in the forest industries. Subcommittees were appointed to deal with the major lines of fact-finding. The plans and subcommittees of the advisory committee, however, are subject to final approval by the National Timber Conservation Board.

The advisory committee decided to proceed along seven major lines as follows:

- (1) The economic situation of forests and timber industries, including present and prospective timber supplies and needs.
- (2) Privately owned timber, logging, manufacturing plants, and distributing facilities.
- (3) Public owned timber, including policies of management, acquisition, disposal, etc.
- (4) Economic possibilities of centralized operations with especial reference to ownership, production, and distribution of forest products.
- (5) Methods of distributing and marketing forest products and possibilities of diversification and expansions of markets and uses.
- (6) Federal and state laws and policies in relation to timber taxation and other conservation phases.
- (7) Possibilities of continuing public and private cooperation designed to conserve timber, stabilize labor, etc. Under this head, the possibilities of sustained yield management will be studied.

The personnel of the advisory committee was given in the last issue of this magazine. Four members have since been added—Mr. J. G. McGowin, President, W. T. Smith Lumber Company, Chapman, Alabama; Mr. Joseph Hyde Pratt, Southern Forestry Congress, Chapel Hill, North Carolina; Mr. Laird Bell of Chicago, Illinois, and Mr. C. R. White of the American Farm Bureau Federation, Ionia, New York.

Mention AMERICAN FORESTS—It Helps

Oregon School of Forestry

Located in the center of the last great stand of virgin timber in the United States.

Offers four and five year courses in professional forestry, logging engineering, and lumber manufacture.

Field work in the magnificent Oregon forests, easily accessible from the school. The largest logging operations and lumber manufacturing plants near at hand.

Summer work readily obtainable in the Forest Service, in logging camps, and in the mills.

For catalog and further information address

G. W. PEAVY, Dean

Oregon State

Agricultural College

Corvallis . . . Oregon

(Authorized by State Board of Higher Education)

School of Forestry

University of Idaho

MOSCOW, IDAHO

Offers thorough training in Practical Forestry, preparing for Federal, State, and private work.

Four and Five Year Courses, leading to the degrees of Bachelor of Science in Forestry and Master of Science in Forestry respectively.

Opportunity is given to specialize in General Forestry, Logging, Engineering, and Range Management.

Large logging and milling operations, important wood - working industries, also extensive Federal, State, and private forests, near at hand. Excellent opportunity for summer employment.

For further particulars address

FRANCIS G. MILLER, Dean



Canada

in its most alluring outdoors aspect is re-created for you month by month

IN

"FOREST and OUTDOORS"

Abundantly illustrated, with eight pages of lovely roto-gravure; 68 pages in all. Beautiful Lithographed Cover Paintings

Edited by a score of noted authors such as

JACK MINER,
HAMILTON LAING, AND
OZARK RIPLEY

A magazine for the nature lover, the tree planter, the sportsman, the conservationist

15 months for \$2
(New Subscribers Only)

Thousands of your neighbors will pay \$3.75 on the news stands for those 15 issues, but quick action on your part saves \$1.75

**CANADIAN FOREST
and OUTDOORS**
51 SPARKS STREET
OTTAWA, CANADA

Reference: Any bank in Canada.

Threat to National Forests Seen

American Forestry Association Opposes Taking of Forest Lands for State Parks on Grounds Precedent Is Detrimental to National Forest Integrity

OPPPOSITION to a bill, introduced in Congress early in February, providing for the transfer of forty thousand acres of National Forest land to the State of South Dakota for State park purposes was voiced on February 13 by The American Forestry Association in a letter to Don P. Colton, Chairman of the House Committee on Public Lands. The objections of the Association to the proposed legislation are based upon its belief that the bill in question if enacted into law would establish a legislative precedent that might lead to the piecemeal disintegration of the National Forest system, in that other states would forthwith seek similar legislation to convert scenic and recreational areas in National Forests into State Parks.

The bill in question was introduced on February 7 in the Senate by Senator Norbeck, and in the House by Representative Williamson, both of South Dakota. It was reported upon favorably by the Senate Public Lands Committee on February 9 and passed by the Senate on February 10. At this writing, it is pending final consideration by the House Public Lands Committee which desired to learn the views of the Secretary of Agriculture.

In its letter to Representative Colton, the Association makes clear that it is in no sense opposed to State Parks, but that it is vigorously opposed to the legislative principle involved in the bill at issue. Because of its possible far-reaching effects upon the integrity of the whole National Forest system, the Association holds that the proposed legislation should be given very careful consideration and that hearings should be held in order that the public may be given an opportunity to express itself. Extracts from the Association's letter to Representative Colton are quoted below:

"Once the precedent is established of Congress alienating National Forest land and deeding it to a state for State Park purposes, we feel that other states will be quick to take advantage of this precedent to convert scenic and recreational areas in the National Forests into State Parks. This would create a situation serving to block the free use of the economic resources of the forests, such as lumbering, grazing, mining, et cetera. Such a movement gaining momentum with growing legislative precedence and local political pressure might result eventually in a piecemeal disintegration of the National Forests.

"The companion bills introduced by Senator Norbeck and Mr. Williamson appear to us to be similar in principle to one passed by Congress in 1916 and vetoed by President Wilson. This bill was designed to authorize municipalities to select National Forest land for park purposes. In vetoing the measure, President Wilson called attention to the fact that alienation is unnecessary because local recreational needs can and are being met under National Forest administration. He further stated:

"If the process of piecemeal distribution is begun, independently of any oversight or control of the National Government, there is manifest danger that the forests will be so disintegrated as to make their efficient administration impossible and the purposes for which they were established unattainable. Against such a process the National Forests should be carefully protected."

"With the close of the present fiscal year, the Federal Government will have spent twenty million dollars acquiring forest lands for National Forest purposes in the East. If these lands are to become subject under legislative precedent, to claim by the states for the building of State Park systems, the objects and purposes of the Government's forest acquisition policy may be very largely defeated and effective forest administration of newly purchased forest lands wellnigh impossible.

"It seems to us further that the policy involved in the Norbeck and Williamson bills of taking forest lands from the National Forests and giving them to the states for local park purposes amounts to a subsidy to State Parks. If one state is entitled to public lands for State Park purposes, are not other states entitled to the same recognition and gift either in the form of public lands or public funds? How will Congress answer this question?

"These points are raised with no thought of minimizing the importance or the need of State Parks. The American Forestry Association heartily favors them and is encouraging their creation, but we believe they are a responsibility of the state and not the Federal Government. We believe that the integrity of the National Forest system must be zealously guarded to the end that their diversified resources may be kept intact, developed, and administered so as to render the highest service to all."

Eight Honored by Biological Survey

In recognition of service in cooperation with the United States Biological Survey by reporting local observations of the migration of North American birds, testimonials have been issued to eight men, each credited with sending in reports to the bureau faithfully for more than forty years. The bureau states that some of the records date back as far as 1880.

Testimonials were sent to Seymore R. Ingersoll, New Smyrna, Florida; H. Martyn Micklem, Shipman, Virginia; Franklin Lorenzo Burns, Berwyn, Pennsylvania; Clement Samuel Brimley, Raleigh, North Carolina; Professor E. L. Mosley, Bowling Green, Ohio; Willis W. Worthington, Shelter Island Heights, Long Island, New York; and F. F. Crevecoeur, Onaga, Kansas.

Acquire 417,000 Acres of Forest Land

The United States obtained title to more than 417,000 acres of forest land and the National Forest Reservation Commission approved purchase of 538,048 acres in the fiscal year 1930, according to the Department of Agriculture. Purchase has been confined to states in the eastern half of the country and will eventually be proclaimed as National Forests, it was stated.

The commission last year approved the establishment of four new purchase units—the Cumberland purchase in Kentucky, the Kiamichi purchase in Oklahoma and Arkansas, the Homochito unit in Mississippi, and the Evangeline unit in Louisiana. The total acreage of these newly established units is 1,325,000 acres, and the general program contemplates the eventual acquisition of approximately 1,176,450 acres within these units.

Ask the Forester?

Each Month Forestry Questions Submitted to the Association Will Be Answered in This Column. If an Immediate Reply is Desired a Self-Addressed, Stamped Envelope Should Accompany Letter.

QUESTION: Has black walnut been successfully planted in Kansas?—J. E. B., New York.

ANSWER: The State Forester of Kansas reports that each year many bushels of walnuts are stratified and planted where the trees are likely to stand. Many farmers plant the nuts in ravines, creek beds and other places suited to the species. Experience of the past sixty years proves conclusively that black walnut demands rich bottom land, and even there pure stands are not profitable. Uplands and ridges are not suited to this tree. In the Arkansas River Valley, where the soil is deep and rich and where moisture is always available, walnut has made satisfactory growth, attaining a diameter of eighteen inches in fifty years, and producing sufficient nuts to pay the taxes on the land. This is only where the trees are planted at the rate of thirty to forty to the acre, and mixed with other species.

QUESTION: I have some small Maritime pines growing in my experimental nursery about nineteen miles from Galveston. I am especially anxious for more information regarding this kind of tree.—H. O. J., Texas.

ANSWER: Maritime pine (*Pinus maritima*), sometimes called cluster pine, has two needles and is native to the coastal region of southern Europe. It occasionally attains a height of one hundred feet, and forms a pyramidal head, with spreading, sometimes pendulous branches. It has been planted along the southern coast of England and is occasionally cultivated in English gardens. This tree has been planted over vast areas in the Landes region of southwestern France, and is the basis of a great naval stores industry. During the World War the Tenth and Twentieth Engineers carried on extensive logging operations in these stands of Maritime pine.

QUESTION: Are National Forests open to campers? Can an individual or an organization erect a summer home or camp?—B. H., Michigan.

ANSWER: Visitors may camp on National Forests and stay as long as they desire. They can use dead wood for fuel, but they must comply with sanitary regulations to protect the purity of the waters. Land for the construction of summer homes or permanent camps may be leased under annually renewable permits at rates as low as \$5 or \$10 a year. Under special circumstances a thirty-year term lease may be granted at a slightly higher figure. Permits for Boy Scout or other semi-public camps are granted on annual or term bases at nominal rates. Plans for summer homes or camps must be approved by the forest supervisor before construction is begun.

QUESTION: Kindly advise me regarding the advisability of planting mahogany trees in abandoned portions of banana farms in Nicaragua. What returns can one expect?—J. A. S., Louisiana.

ANSWER: This was referred to Professor D. M. Matthews, of the University of Michigan, who expressed the opinion that various valuable timber species might be profitably planted upon abandoned banana plantations. He suggested the true or Cuban mahogany (*Sweitenia mahogany*). The natural-grown supply of this tree is now nearly exhausted and little is known as to its rate of growth in plantations. Honduras mahogany (*S. macrophylla*), although less desirable, has been planted in Trinidad, and near Caracas in Venezuela. It grows rapidly in deep, well-drained loam where the rainfall is at least seventy inches a year and well distributed. Plantations should produce trees eighteen inches in diameter in twenty-five or thirty years, and trees twenty-five inches in diameter with clear lengths of forty to sixty feet in forty years.

Professor Matthews recommended that the small trees be planted about thirty feet apart among the abandoned banana plants, and that they be mixed with other trees including cedar (*Cedrella mexicana*). He advised consulting a forester familiar with the region before making any investment in the project.

QUESTION: Can spruce be satisfactorily planted for Christmas trees in Kansas?—J. E. D., New York.

ANSWER: Spruce is not generally recommended for planting in Kansas. Occasional spruce trees growing in farmyards and on the campus of the State College of Agriculture have attained a good size but the State Forester does not recommend spruce for Christmas tree plantations. Trees which have proved successful for this purpose in Kansas are arborvitae, Scotch pine and red cedar.

QUESTION: I would appreciate information concerning the extent to which any large railroads use cypress, and the comparative durability of cypress piles and creosoted pine piles.—G. H. C., Maryland.

ANSWER: The Chief Engineer of the Illinois Central Railroad reports that on their Louisiana Division there are thirteen bridges built of red cypress piling in 1903. The piles in these bridges are still in fair condition. He reports further that if properly treated creosoted pine poles should give approximately the same life as those of Louisiana red cypress. Some power companies in the South that formerly used poles of cypress as well as creosoted pine are now reported to be using creosoted pine almost exclusively because of the longer life.

Mention AMERICAN FORESTS—It Helps

Choosing a School

The schools whose announcements appear in AMERICAN FORESTS are the leading forestry schools in their respective localities. They offer a well-balanced curriculum and the inspiration of leaders in the profession of forestry.

Members may select from them with the full assurance that they are choosing from the best.

Forestry Training in the Heart of the Rockies

Colorado School of Forestry
A Department of Colorado College

Undergraduate and graduate courses in Technical Forestry. Forestry teaching in spring and fall at Manitou Forest (a 7,000-acre Forest belonging to the School) and the winter term at Colorado Springs.

Gordon Parker, Director
Colorado Springs, Colorado

University of Maine Orono, Maine

The Forestry Department offers a four-years' undergraduate curriculum, leading to the degree of Bachelor of Science in Forestry.

Opportunities for full technical training and for specializing in forestry problems of the northeastern States and Canada.

Eight-weeks' camp course required of all Seniors in Forestry, in practical logging operations, in northern Maine, under faculty supervision.

For catalog and further information address

JOHN M. BRISCOE
PROFESSOR OF FORESTRY

Harvard Forest

Petersham
Massachusetts

A forest experiment station of two thousand acres, 22 years under management on a sustained yield. Large variety of silvicultural treatment in progress. Logging, milling, and marketing annually carried on. Continuing program, as well as special projects, in research are carried on. Competent graduate students accepted as candidates for degree of M. F. or D. S.

RICHARD T. FISHER
Director

Consulting Foresters

Prentiss & Carlisle Co., Inc.

Timberland Service

Valuation Surveys Forest Management
12 Hammond Street
Bangor Maine

P. T. COOLIDGE

CONSULTING FORESTER

TIMBER ESTIMATES AND LOGGING PLAN
913 Nat'l Bank 31 Central St., 1261 Bay St.,
or Com. Bldg., Bangor, Maine Toronto, Ont.
Norfolk, Va.
P. T. COOLIDGE W. C. WHEELER

JAMES W. SEWALL

Consulting Forestry

JAMES W. SEWALL PHILLIPS & BENNER
OLD TOWN RUTTAN BLOCK
MAINE PORT ARTHUR, ONT.

EDWARD C. M. RICHARDS

Consulting and Operating Forester
156 Fifth Ave. New York City

Specialist in Forest Estate
Management and careful selective
cutting operations

JANUARY AND FEBRUARY 1931 ISSUES

We have had a large number of requests for the January and February 1931 issues of AMERICAN FORESTS.

Readers who have no further use for these issues will perform a service if they will return them to this office. Address:

Business Office AMERICAN FORESTS
1727 K Street, N. W. Washington, D. C.

Fire Protection Association Meets

The Forest Fire Committee of the National Fire Protection Association met in Washington, D. C., late in January to discuss developments in forest-fire protection and prevention and to appoint an Educational Material Committee.

The subjects discussed dealt with the development of principles of forest-fire protection for use around private camps and hotels; development of standards for forest-fire equipment; the best type of spark arrestors and other equipment; the extent to which each state is meeting its responsibilities and recommendations for completion of fire-prevention programs; and the standardization of forest-fire laws.

G. H. Collingwood, forester for The American Forestry Association, was named chairman of the Educational Material Committee. Other members named were Nelson C. Brown, Izaak Walton League; H. G. Kemper, Mutual Fire Insurance Company; Edward E. Minor, New Haven Water Company; and George J. Richardson, American Federation of Labor.

Mississippi School Demonstration Forest

A demonstration forest has been established by the Deep Creek Consolidated School, in Stone and Perry Counties, in Mississippi, for the purpose of studying reforestation, according to the United States Forest Service.

A gift of forty acres of newly cutover land adjacent to the school has been received from the J. J. Newman Lumber Company. This gift was made with the stipulation that it be used for the purpose of solving local reforestation problems and demonstrate forest management. It is required that the demonstrations be carried on under the direct supervision of the Mississippi Forest Service. Any revenue derived from the forty acres is to belong to the school.

The forty acres will be mapped and divided into five-acre plots. It is probable that five acres will be planted to pine seedlings each year.

An Amateur Reforests

(Continued from page 162)

have plowed and harrowed the land before planting the pines.

In the meantime, my nurseries progressed without attention. Where blanks were encountered in the pattern of tree planting I transplanted from the nursery. On the bank I planted bay bushes, honeysuckle, red pine, heather and wild roses. Both of the latter were native. Some erosion occurred before things took hold, but it was not significant.

All lower branches on standing timber were cut off consistently, the aim being to have straight timber with a crown rather than the well-rounded trees of the front-lawn type. This has been done to permit the free passage of the summer breezes and to permit me to carry out another plan I had in mind.

Now at the beginning of the seventh year I have taken stock of what has been accomplished. The living timber that was on the spot when I cleared is healthy, and has grown an average of four feet. The red pine averages four feet in height and is vigorous, though in the first two years the tree mortality was high, due to dry summers. Other trees from the little nursery have progressed. The sandy shore line is protected, the pine on its sunbaked surface growing well. The honeysuckle has been disappointing, but the heather and partridge berry have made up for the failure. There is now concrete evidence that within another five years I shall have a well-stocked woods which, while clean, will not have lost the appearance and suggestion of the forest primeval.

To this miniature forest has been added a bird bath. During thirty days of the past summer I identified twenty-five different species using it, and frequently from eight to ten birds are in at one time. To see the scarlet tanager and bluebird rubbing shoulders with a Maryland yellow-throat and a hermit thrush, and to hear the music of the bird choir at twilight is worth a hundred times the cost of the bath.

It is impossible to have a real garden when it can only be attended for two months of the year. Therefore I have established what might be called a "wild flower sanctuary." First I raided the neighboring woods to find native

NOMINATE YOUR FRIENDS FOR MEMBERSHIP

Fill in the last line and mail the application to a friend. He will appreciate the courtesy.



American Forests is sent
monthly to all except
Annual Members

Application for Membership in The American Forestry Association

The AMERICAN FORESTRY ASSOCIATION,
1727 K Street N. W., WASHINGTON, D. C.:

I hereby apply for membership in The American Forestry Association and enclose \$.....

Date.....

INDICATE CLASS OF MEMBERSHIP DESIRED

- | | |
|--|----------|
| <input type="checkbox"/> Subscribing membership, per year, including Magazine..... | \$4.00 |
| <input type="checkbox"/> Contributing Membership, per year, including Magazine..... | 10.00 |
| <input type="checkbox"/> Sustaining Membership, per year, including Magazine..... | 25.00 |
| <input type="checkbox"/> Life Membership (no other dues for life), including Magazine..... | 100.00 |
| <input type="checkbox"/> Patron Membership (no other dues for life), including Magazine..... | 1,000.00 |
| <input type="checkbox"/> Annual Membership, without Magazine..... | 1.00 |

Canadian Postage 25c extra, Foreign 50c extra, on Subscribing Memberships

PLEASE LETTER OR TYPE NAME AND ADDRESS

Name.....
Street.....
City and State.....
Business or Profession.....
Nominated by.....

March, 1931

wild flowers. These were planted in isolated patches in the woods. Then I sought to purchase wild flower seeds, but to my surprise there was at that time but one dealer, and he was an amateur. Lately I have discovered two other sources, both in the United States—one in Vermont, the other in North Carolina. Now I have in the midst of pine and cedar, native orchids, holly, trailing arbutus, mountain laurel and violets.

What has been accomplished has been productive of an unlooked-for result—a sort of ripple that goes from where a stone strikes the water to the shore. On either side of my six acres the woods, until two years ago, were wild. Then the owners, one having six and the other twelve acres, followed my example but avoided my mistakes. Today on the hills of the north shore of Long Island there stands a stretch of land 1,200 feet in length and about 1,600 feet deep that has the appearance of a European forest.

In the spring, when the lace of dogwood is touching the candles of beach plum blossom, or in the fall when the russet of the leaves forms a background for the scarlet dogwood berry, my wife and I vote in unison that the thrill of planning cannot compare with the thrill of the beauty—this, irrespective of the worth of the timber now or in the years to come.

Boys and Girls Page

(Continued from page 166)

of you at right angles to the body, the fist level with the chest, and measuring the distance between the eyes and the stick. Then consult the table given here for the graduations on your Biltmore stick. For example, if the arm length is twenty-two inches, column twenty-two directs you to measure 5.3 inches from "A" and mark it 6; then from "A" mark off 6.8 inches and mark it 8; likewise 8.29 and mark it ten, and so on until the entire stick is graduated. If the arm length is twenty-four inches use column twenty-four. If the stick is graduated for twenty-two inches length of arm, trees fifty inches in diameter can be measured.

After the stick has been prepared, grasp it by the handle, the arm extended at right angles to the body on a level with the chest—four and a half feet above ground—the stick parallel to the ground, just touching the tree. Glance toward the right side of the tree and move the stick until "A" and the side of the tree are in direct line. Now without moving the head or moving the stick glance toward the

left side of the tree and note the point on the stick that is in direct line with that side of the trunk. This reading gives you the diameter of the tree breast high. With practice, readings

can be made quickly and with reasonable accuracy. Tree calipers are more accurate, but one thing at a time is a good motto. Sometime later on I will discuss simple instruments for measuring the height of trees. One surface of the Biltmore stick may be saved for this, so that you may have a combined instrument for measuring heights and diameters. After this, the stick may be smoothed and varnished; fine for a cane while on a hike. Make an instrument you will be proud to have in your forest museum and show your friends. To do a good job, have sharp tools. In using them have sharp eyes and keen minds.



Trees and the Farm Home

(Continued from page 132)

summer and provides firewood for heating his home, and in many ways contributes to the successful operation of the farm factory.

The Forest Service has found in its investigations that timber grown on the farm in various sections is supplementing cash income obtained from other crops. Farmers are able to sell pulpwood, crossties, poles, firewood or saw logs, and do the cutting and hauling to market at periods of the year when the regular farming operations do not fully occupy their time.

A systematic effort is now being made in some of the Southern States to erect pulp mills to provide a steady market for the pulpwood produced in the farmers' woodlots, a practice which has been common in European countries for many years. In the case of one mill the statement is made that farmers within a radius of twenty-five miles were supplying pulpwood for which the farmers received an added revenue of \$100,000 a year, a substantial increase in the income of each of the farmers furnishing the supply.

The point is that reforestation should not be considered solely in terms of large tracts of land taken over by Federal or state governments or operated as an enterprise by some large holding company looking forward to a lumber operation. The application of the reforestation program to the small unit may easily prove of far more benefit to the nation as a whole than the big operations referred to.

Several of the states have taken action toward relieving land thus utilized from the full burden of taxation. Others should do so. Usually, the land planted to trees is the less productive portions of the farm on which the return is low. The movement to restore the home woodland ought to be encouraged and perhaps one of the best ways to do this is by releasing such land from some of its present taxation.

Arkansas Considers Forestry Bills

The Arkansas legislature, now in the midst of its biennial sixty day session, has had under consideration several plans for the solution of her forest problems. One proposal is to create an independent forestry department with a state forester. This bill, S. 261, introduced by Senator Joe W. Kimzey, of Magnet, Arkansas, has passed the Senate and is now before the House. It is reported to have strong chances of success.

Stressing the need for fundamental changes in governmental organization, which is now based on the State Constitution of 1874, Governor Harvey Parnell presented a plan for complete reorganization of the State's administrative machinery. This is the result of an exhaustive study by the National Institute of Public Administration and the Bureau of Municipal Research of New York City and includes a Department of Conservation with a Bureau of Forests and Parks to be administered by a competent forester. Recent reports from Arkansas indicate the Governor's plan has been killed and another plan proposed by the opposition has been presented.

Meanwhile some of the larger private landowners, organized as the Arkansas Forest Protective Association, are attempting to protect 4,256,000 acres of their lands from fire. Although their properties constitute about twenty per cent of the area in need of protection, figures for the calendar year 1929 show that only 300,000 acres of the protected land was burned as against 2,250,000 acres of unprotected land. Damages that year were estimated at over \$5,000,000, while competent foresters estimate reasonable protection can be secured at a cost of \$500,000 a year.

Forestry Men

Write Us

Telling us how pleased they are with

Fechheimer Regulation Forestry Uniforms

Tailored to measure, of sturdy, long-wearing all-wool specified fabrics, and GUARANTEED to satisfy.

WRITE

for prices and samples

Terms to U. S. Forest Officers.



OFFICIAL
FECHHEIMER
UNIFORMS

The FECHHEIMER BROS. CO.

"America's Foremost Uniform Makers"
Cincinnati, Ohio

ALLEGANY SCHOOL OF NATURAL HISTORY

The School in the Forest

Quaker Bridge, N. Y.

Fifth Season—July 8 to August 27, 1931

For field studies in Zoology, Botany, Geology, Natural History of Birds, and Nature Study, under most favorable conditions as to natural surroundings, laboratories, living conditions, climate, and professional guidance.

Sponsored by the Buffalo Society of Natural Sciences, the New York State Museum, and the University of Buffalo (with college credit).

For circular or registration, address
DR. ROBERT E. COKER, Director
CHAPEL HILL, N. C.

DAN BEARD

The Famous Outdoor Man, is
Chief at the

DAN BEARD WOODCRAFT CAMP

(The most famous of all camps)

Activities include:—woodcraft, swimming, water sports, four day canoe trips, Delaware river canoe journey, aviation taught by world famous aviator, riding, tomahawk throwing, overnight hikes in real woodsman fashion, mystic council fires, nature lore, marksmanship, archery, etc.

A real outdoor camp for boys 11 to 17.

Write for information.

Box 218 B

Sulfer, New York

The American Forestry Association

1727 K STREET, NORTHWEST

Washington, D. C.

President
GEORGE D. PRATT

Treasurer
GEORGE O. VASS
Assistant Treasurer
I. J. ROBERTS

Executive Secretary
OVID BUTLER
1727 K Street N. W.
Washington, D. C.

Forester
G. H. COLLINGWOOD
Business Manager
FRED E. HORNADAY

New York Office: 468 Fourth Avenue

What the Association Is Working For

ADEQUATE FOREST FIRE PROTECTION by federal, state, and other agencies, individually and in cooperation; the REFORESTATION OF DENUDED LANDS, chiefly valuable for timber production or the protection of stream-flow; more extensive PLANTING OF TREES by individuals, companies, municipalities, states, and the federal government; the ELIMINATION OF WASTE in the manufacture and consumption of lumber and forest products; the advancement of SOUND REMEDIAL FOREST LEGISLATION.

The ESTABLISHMENT OF NATIONAL AND STATE FORESTS where local and national interests show them to be desirable; the CONSERVATIVE MANAGEMENT OF PUBLIC AND PRIVATE FORESTS so that they may best serve the permanent needs of our citizens; the development of COMMUNITY FORESTS.

FOREST RECREATION as a growing need in the social development of the nation; the PROTECTION OF FISH AND GAME and other forms of wild life, under sound game laws; the ESTABLISHMENT OF FEDERAL AND STATE GAME PRESERVES and public shooting grounds; STATE AND NATIONAL PARKS and monuments where needed, to protect and perpetuate forest areas and objects of outstanding value; the conservation of America's WILD FLORA and FAUNA.

The EDUCATION OF THE PUBLIC, especially school children, in respect to our forests and our forest needs; a more aggressive policy of RESEARCH AND EDUCATIONAL EXTENSION in the science of forest production, management, and utilization, by the nation, individual states, and agricultural colleges; reforms in present methods of FOREST TAXATION, to the end that timber may be fairly taxed and the growing of timber crops increased.

Vice-Presidents

STANLEY COULTER—Indiana
Conservation Commission of Indiana
DR. HENRY S. DRINKER—Pennsylvania
President Emeritus, Lehigh University
DR. DAVID FAIRCHILD—Florida
Agricultural Explorer, United States Department of Agriculture
GLENN FRANK—Wisconsin
President, University of Wisconsin
JAMES R. GARFIELD—Ohio
Chairman, Commission on Conservation of the Public Domain
ALLEN HOLLIS—New Hampshire
President, Society for Protection of New Hampshire Forests
MRS. HERBERT HOOVER—District of Columbia
POSEY N. HOWELL—Mississippi
Mississippi Forestry Commission
STAFFORD KING—Minnesota
American Legion
R. A. LONG—Missouri
Chairman, Board of Directors, Long-Bell Lumber Company
MRS. J. WILLIS MARTIN—Pennsylvania
Garden Clubs of America
JACK MINER—Ontario, Canada
Wild Life Protector
DR. E. W. NELSON—District of Columbia
Former Director, United States Biological Survey
PETER NORBECK—South Dakota
United States Senator
JOSEPH HYDE PRATT—North Carolina
North Carolina Forestry Association
ARTHUR H. VANDENBERG—Michigan
United States Senator
GEORGE E. VINCENT—Illinois
President, Izak Walton League of America
PHILIP WEYERHAEUSER—Idaho
General Manager, Clearwater Timber Company
WILLIAM M. WHEELER—California
President, California Forest Protective Association
MRS. FRANCIS E. WHITLEY—Iowa
General Federation of Women's Clubs
SINCLAIR WILSON—Oregon
Chairman, Forestry Committee, Oregon State Chamber of Commerce

Board of Directors

J. E. ALDRED, 1931—New York
Pennsylvania Water and Power Company
F. W. BESLEY, 1935—Maryland
State Forester of Maryland
W. R. BROWN, 1934—New Hampshire
Chairman, New Hampshire Forestry Commission
C. ARTHUR BRUCE, 1935—Tennessee
Director, Hardwood Manufacturer's Institute
HENRY SOLOMON GRAVES, 1932—Connecticut
Dean of Yale Forest School
WILLIAM B. GREELEY, 1933—Washington
West Coast Lumbermen's Association
W. B. GREELEY, 1931—New York
Camp Fire Club of America
A. S. HOUGHTON, 1934—New York
New York State Reforestation Commission
JOHN C. MERRIAM, 1931—District of Columbia
Dean, Carnegie Institution of Washington
JOY MORTON, 1933—Illinois
Founder, Morton Arboretum
GEORGE H. MYERS, 1934—Washington, D. C.
GEORGE W. SISSON, JR., 1935—New York
American Paper and Pulp Association
LOUIS J. TABER, 1933—Ohio
Master, National Grange
W. D. TYLER, 1932—Virginia
Southern Forestry Congress
WILLIAM P. WHARTON, 1932—Massachusetts
National Association of Audubon Societies

The Land of Everlasting Fire

(Continued from page 147)

with single fronds twenty feet long, from trees forty feet high. Sandalwood is a relic of what was once a principal industry of Hawaii and was lost because a hundred years ago there was no policy of forest conservation. Great *koa* trees grow in stately forests. This tree manufactured produces the beautiful Hawaiian mahogany. It is not unlike birdseye maple tinted mahogany brown. Flowering *ohia* trees are distinctive of the volcanic region. Fuchsia, morning glories, wild roses, thimble berries and hibiscus brighten the roadways and the trails. *Ohelo* berry, a native huckleberry, is one of the features of the volcano region, gathered wild by those who know it and served as a table delicacy in season. The lover of plant life of the tropics and temperate zones encounters at every turn old friends brought from other climes, intermingled with flowers and foliage claimed to be indigenous to Hawaii. In the crater of Haleakala, on Maui, the famous silver sword grows so brilliantly that it has to be protected from complete extinction by enthusiastic flower gatherers.

A tract of land within a short walk from the volcano house, set aside as a bird forest, is the challenge of the National Park Service to the conditions that have all but completely destroyed the ancient bird life of Hawaii. It is a sanctuary for the birds known to old Hawaii, and it seems to be serving its purpose of bringing some of them back.

Whether the lava flows or not, there is always action that shows Kilauea to be very much alive. Steam issues from earth cracks in unexpected places and is set to practical work. Steam cracks near the hotel are boxed in to provide continuous service, day or night, for guests that seek baths of sulphur steam direct from natural sources. The superintendent of the park diverted steam from an earth crack to heat his official headquarters.

Human footprints in the hardened crust of lava dust are found in a good state of preservation about two miles from the Kilauea pit. These go back to the date in ancient Hawaiian history, estimated to be 1790, when a retreating army was overwhelmed by the dust and ashes issuing from the fire pit and formed into a heavy crust by heavy rains. Kilauea has had its explosive periods. The only one of modern times was in 1924, following a lava activity that drained the fire pit in the direction of the seven craters. Vents for escaping gases apparently were so securely sealed that the pent up forces burst forth in a series of explosions that hurled the rock ledges, blown into the dust of ashes, miles into the air. This most violent exhibition known to modern Hawaii increased the size of the fire pit to an opening 190 acres in area and 1,200 feet in depth. Where once was smooth lava rock near the pit, is now an ash-covered area strewn with rocks and boulders. These show how ledges of hard blue rock may be blown to bits by unknown forces seeking an outlet. Lava returns at intervals, the most recent flow being in November of 1930.

Some people think of the Pacific as a region of magnificent distances. But the Hawaii National Park is only eight days and a fraction from New York. Once landed in Honolulu from the four-and-a-half-day express steamer from San Francisco, the trip from Honolulu to Hilo may be made by airplane in less than three hours. It is an overnight steamer trip. The larger passenger ships make a daylight trip that gives the passengers a view of the fertile and luxuriant islands of Molokai, Maui, Lanai and Kahoolawe that guard the waters of the naval rendezvous area, and the picturesque north coast of the island of Hawaii.

Many think of Hawaii as low-lying South Sea Island coral reefs. The islands of the Territory of Hawaii are the peaks of great mountains rising from an ocean plateau thousands of feet below the ocean level. The latitude within the tropic zone and the altitude of the highest island peaks give every variety of climate and scenery, fertile fields, desert waste, and tropical jungle.

Human wisdom that has guided the development of prosperous industry has found time for the consideration of the beauty spots and wayside vistas of mountain grandeur. The best of these have been studied and set aside in perpetuity as units in the Hawaii National Park.

Shillelagh

(Continued from page 143)

Having daily repeated this until we had made it straight, and renewed the oil wrapping until the staff was perfectly saturated, we then rubbed it well with a woolen cloth, containing a little black-lead and grease, to give it a polish. This was the last process, except that if we thought it too light at the top, we used to bore a hole in the lower end with a red-hot iron spindle, into which we poured melted lead, for the purpose of giving it the knock-down weight."

\$50,000 Donation to Study Manufacture of Newsprint from Slash Pine

Fifty thousand dollars has been offered by a Georgia woman to establish an experimental plant in Georgia to manufacture newsprint from slash pine, provided sufficient capital is raised from other sources to operate the mill, according to Dr. Charles Herty, of New York.

Dr. Herty announced that about \$20,000 a year for five years would be required for operating expenses, and also that he was confident that if the plant is established it will be demonstrated in not more than five years that making newsprint from pine is entirely feasible. In that event, he said, a new industry of enormous proportions would soon be located in Georgia.



Mention AMERICAN FORESTS—It Helps

REGULATION

UNITED STATES

Forestry Style Uniforms



No guess work when you buy an outfit here—It will look right, fit right, wear right and—Be RIGHT—

RIGHT from start to finish.

Write for NEW Illustrated Catalog with Samples and Prices attached

Write for our Special Forest Service Suit Offering

SMITH-GRAY

740-4 Broadway

New York

WEAR YOUR EMBLEM



Our artistic membership emblem was designed by one of the largest emblem manufacturers in the world. It is octagon shaped with gold beveled edges. The tree is modeled in gold and covered with transparent green enamel. The A. F. A. is inlaid in dark green enamel.

\$2.00 each, postpaid

THE AMERICAN FORESTRY ASSOCIATION
Washington, D. C.

AERMOTOR FIRE TOWERS

Afford the best means for locating forest fires quickly. They are also attractive Observation Towers. The picture shows a 60-foot Aermotor tower when visited by the Ohio Forestry Association. These towers are safe and easy to climb.

36-page booklet free by writing to

AERMOTOR CO.
2500 Roosevelt Road
CHICAGO

Index to ADVERTISERS MARCH, 1931

	Page
Aermotor Company	191
Aiken, George D.	182
Allan Ranch	172
Allegheny School of Natural History	189
American Telephone & Telegraph Co., 2nd Cover	
Ballard & Company, J. O.	175
Bean, L. L.	174
Beard Woodcraft Camp, Dan	189
Benner & Company	174
Blowers, F. E.	182
Blue Ridge Park Nurseries, Inc.	183
Bogle, M. E.	174
Bristol, H. R.	183
Brookings Institution, The	178
Brown Company	178
Buechly, E. M.	183
Canadian Forest & Outdoors	186
Central Maine Forest Nursery	183
Colorado School of Forestry	187
Coolidge, P. T.	188
Davey Tree Expert Company	4th Cover
Dodson, Inc., Joseph H.	176
Fechheimer Bros. Company, The	189
Ferndale Nursery	183
Fleu, Conyers B., Jr.	183
Franklin Forestry Company	183
Freeman-Thompson Shoe Company	174
Harvard Forest	187
Hill Nursery Company, D.	179
Hough & Company, R. B.	178
Indianfield Pheasantry	174
Int'l Projector Corp. (Acme Div.)	176
Jones Nursery Company, E. W.	183
Jones Nurseries, J. F.	183
Keene Forestry Associates	183
Kelsey Nursery Service	183
Kelsey Nursery Service	3rd Cover
LaBars' Rhododendron Nursery	177
Lager & Hurrell	183
Living Tree Guild, The	177
Loganbrae Kennels	176
Long Bell Lumber Company, The	182
Mad Creek Ranch	172
Mears, A. H. G.	172
Morris Nursery Company, The	182
Naperville Nurseries	183
N. Y. State College of Forestry	184
North-Eastern Forestry Co., The	183
Northern Pacific Railway	169
Oregon School of Forestry	185
Plumb, Inc., Fayette R.	179
Polk & Company, R. L.	174
Pomeroy & Son, D. N.	183
Prentiss & Carlisle Co., Inc.	188
Remington Arms Company, Inc.	171
Richards, Edwards C. M.	188
Savage Arms Corporation	173
Sewall, James W.	188
Smith & Company, D. B.	175
Smith-Gray	191
Stoeger, Inc., A. F.	174
Swedberg Bros. Nurseries	183
Tabor Company, Rollin H.	178
Terrell's Nurseries	174
Tingle Nursery Co., The	183
United Hotels Company	180
University of Idaho School of Forestry	185
University of Maine	187
Vaughn-Eames, Henry	182
Western Maine Forest Nursery	181
White Showers, Inc.	182
Wisconsin Aquatic Nurseries	174
Wohlert, A. E.	183
Yale School of Forestry	184

"WHO'S WHO" AMONG OUR AUTHORS



Archibald Rutledge

dren of Swamp and Wood," "Days Off in Dixie," and his latest, a compilation of some of his best works, "Peace in the Heart."

ALEXANDER LEGGE (*Trees and the Farm Home*), Chairman of the Federal Farm Board, at Washington, D. C., began his career with the McCormick Harvester Company, at Omaha, Nebraska, and was continuously with that company and its successor, the International Harvester Company, becoming general manager in 1913 and president in 1922. Mr. Legge came to Washington at the time of the World War and served as vice-chairman of the War Industries Board. He also acted as director of the Allied Purchasing Committee during the War, after which he returned to the International Harvester Company. Appointed by President Hoover as chairman of the newly organized Federal Farm Board, Mr. Legge returned to Washington in 1929 to direct its activities. His resignation from this office has just been announced but as yet has not been confirmed by the White House.

THEODORE ROOSEVELT (*New Forests for Porto Rico*) is governor of Porto Rico and was formerly assistant Secretary of the Navy. Mr. Roosevelt has on numerous occasions evinced decided interest in conservation measures.

WALLACE RIDER FARRINGTON (*The Land of Everlasting Fire*), editor and manager of the Honolulu Star Bulletin, Ltd., Honolulu, was formerly Governor of Hawaii, serving from 1921-29. Mr. Farrington began his newspaper career in 1891 as a reporter of the *Bangor* (Maine) *Daily News*, of which he was later an editor. He has been associated with numerous newspapers both in the states and in Hawaii.



Ben East

BEN EAST (*Pictures of the Whitetails*), Nature Editor of the *Grand Rapids* (Michigan) *Press*, again offers the readers of AMERICAN FORESTS one of his intensely interesting stories. This story of photography is his latest and he tells of his experiences in photographing the elusive Whitetails. Mr. East conducts an outdoor page for a number of newspapers in the Lake States.

G. L. ROHDENBURG (*An Amateur Reforest*) is Director of Laboratories at the Lenox Hospital in New York. A lover of nature and forests, he has made an experiment in reforestation and tells about it in his article. Mr. Rohdenburg is the author of many papers on pathological topics, notably cancer. As a physician he is unique in his belief that nature is probably the best physician and "knits up the raveled sleeve of care" by going to the woods and indulging in his hobby of photography.



G. L. Rohdenburg

W. C. MCCORMICK (*The Lake Jovita Fire Club*) is Regional Director of the Southern Educational Project of The American Forestry Association. His work carries him through the states of Mississippi, Florida and South Carolina, the last state to come into the Project.

ADELAIDE BORAH (*Old Trees of Washington*), a resident of Washington, is a writer of note and has contributed many special articles to AMERICAN FORESTS and other magazines. In this article, the third of a series, Miss Borah presents a number of old trees associated with famous men of the Capital city. The first article of the series told of the beginning of tree appreciation and planting plans in Washington. This series of articles will be concluded in the April issue.

FRED L. KISER (*Through the Lens*), is a veteran photographer of California and is known all through the country for his beautiful pictures of the West. Of his photographic art he says: "My greatest desire is to stimulate interest in the making of better pictures that tell a real and beautiful story of a real and beautiful outdoors."

WAKELIN MCNEEL (*A Forest Page for Boys and Girls*) makes his home at Madison, Wisconsin, and is Assistant State Club Leader of that state. Mr. McNeel shows our boy and girl readers how to make things from the wood of the forests.

G. H. LENTZ (*From Forest to Waste Land*) is Silviculturist at the Southern Forest Experiment station, with headquarters at New Orleans, Louisiana. For two years Mr. Lentz was forester on the estate of E. H. Harriman in Orange County, New York, and was later appointed professor of forestry at the New York State Ranger School, at Wanakena. In 1930 he began his erosion studies in the South. In his article *From Forest to Waste Land*, Mr. Lentz shows the deadly process of erosion in a cottonfield in the South.



G. H. Lentz

Special Bargains in Evergreens

Large Transplants at Low Cost



RED PINE (Pinus Resinosa)

Again we offer large transplants in this popular variety for mass planting. By far the best native Pine for all-round purposes, it gains in popularity every year.

We offer fine bushy twice-transplanted trees 14 to 22 inches high at \$16.00 per 100—\$125.00 per 1000.

At maturity, the tree is broad headed and dense, a splendid specimen. It thrives in gravel soil or better.



A HEDGE OF CYPRESS

Dense and green all Winter—neat growing and easily clipped, the Japanese Cypress (Retinospora) is an ideal evergreen hedge. It is unusual and effective, and can be planted in almost any soil.

Moreover, it is now possible to purchase fine bushy plants at less than half the usual prices. We must dispose of a nursery block of several thousand in order to clear land, and while they last they represent a thoroughly sound purchase.

RETINOSPORA (Japanese Cypress)

- R. PLUMOSA (Plumed)
- R. PLUMOSA AUREA (golden)
- R. PISIFERA (Sawara Cypress)
- R. PISIFERA AUREA (golden)

Bushy plants Balled and Burlapped 18 to 24 in. high. \$80 per 100, \$750 per 1000. No orders accepted less than 25 of one kind.

A similar offer has been made for several years to the readers of *American Forests* and the demand has always exceeded the supply. We suggest early orders. The stock is healthy and fully up to grade. All Eastern grown, mainly in New England. Each "X" is one transplanting.

PINES

(100) (1000)

RED (Norway)

25,000 14 to 22 in., XX..... \$16.00 \$125.00

Austrian

17,000 10 to 18 in., X..... 12.00 75.00

Riga Variety Scots

12,000 12 to 18 in., X..... 9.00 70.00

7,000 18 to 24 in., X..... 12.00 90.00

Mugho

580 12 to 18 in., XXX..... 100.00 900.00
(Balled and Burlapped)

FIRS

Balsam

19,500 4 to 8 in., X..... 8.00 60.00

7,000 6 to 12 in., X..... 10.00 80.00

Douglas

3,000 6 to 12 in., X..... 14.00 70.00

1,200 10 to 15 in., XXX, bushy 35.00 295.00

Concolor (Silver)

10,000 5 to 9 in., X (special).. 70.00

4,000 8 to 10 in., XX, bushy.. 25.00 200.00

1,000 10 to 12 in., XX, bushy 30.00 250.00

1,000 12 to 15 in., XXX, bushy 35.00 300.00

HEMLOCK (Tsuga canadensis)

2,000 8 to 10 in., XX..... 30.00 250.00

4,000 10 to 14 in., XXX, bushy 45.00 400.00

YEW (Taxus)

Cuspidata

500 10 to 15 in., XX, upright 150.00

(Balled and Burlapped)

1,000 Cuttings 2½ in., pots.... 25.00 200.00

Cuspidata nana (brevifolia)

1,000 Cuttings 2½ in., pots.... 28.00 240.00

SPRUCES

Englemann (Blue)

18,750 9 to 12 in., X 27.00 200.00

White

20,000 6 to 12 in., XX, bushy.. 10.00 80.00

Norway

25,000 6 to 16 in., X (special).. 6.00 40.00

2,000 12 to 15 in., XX..... 10.00 80.00

Colorado Blue (pungens)

10,000 5 to 9 in., X (special).. 12.00 90.00

4,000 8 to 10 in., XX, bushy.. 25.00 200.00

2,000 10 to 12 in., XXX, bushy 35.00 300.00

Kosters Grafted Blue

(10) (100)

250 6 to 8 in., 1-year field.. 20.00 150.00

300 12 to 18 in., XX, 3-yr. field 45.00 400.00
(Balled and Burlapped)



**CHINESE (Siberian) ELM
(Ulmus pumila)**

This is the extremely fast-growing variety recommended by Dr. Wilson. From Texas to Maine and the Pacific Coast come golden tales of its hardiness, resistance to extreme of temperature, and extremely rapid growth. The best of it is, they are mainly true. Chinese Elms should not be planted in heavy, wet soils. But we know of five hundred thriving on the tip of Cape Ann. We offer stock from hardy North China seed:

	(100)	(1000)
8,000 3 to 4 ft., whips.....	\$15.00	\$98.00
	(10)	(100)
5,000 5 to 6 ft., XX.....	11.00	100.00
750 6 to 8 ft., XX.....	15.00	135.00

DAPHNE CNEORUM (Garland Flower)

The most delightful of the dwarf evergreen Shrubs. A mass of fragrant pink blooms in May, which continue sparsely through the summer, and then in September it again bears a profusion of blooms. It thrives in any good soil and likes full sun.

	(Each)	(10)	(100)
6 to 8 inches.....	\$1.00	\$9.00	\$75.00
8 to 10 inches.....	1.25	12.00	95.00
10 to 12 inches.....	1.50	14.00	125.00

KELSEY'S Short Guide

is now ready for distribution. The best varieties of Evergreens, Trees, Shrubs, etc., in concise form, priced and described. There are photographs in natural color. Also Kelsey prices—bargains in many varieties unequalled elsewhere, when quality is considered. Copy free if you ask for it.

KELSEY NURSERY SERVICE

50 CHURCH STREET

NEW YORK CITY



Reproduction from a color photograph made at "Penn-Schoells," the estate of Paul A. Schoellkopf, Lewiston Heights, Niagara Falls, N.Y. © The D. T. E. Co., Inc., 1931

20% more people bought Davey Tree Surgery Service in 1930 than in the previous year

In 1929 Davey Tree Surgeons served 22,368 clients, and in 1930 they served 26,848—in the far-flung territory from Boston to beyond Kansas City, between Montreal, Toronto and the Gulf.

In view of the general business conditions prevailing in the past year, is it not highly significant that so many more people bought Davey service than in the unusually prosperous year preceding?

It is the business of Davey Tree Surgeons to save trees when they can be saved. They are a unique group of men—more than 1000 of them—carefully selected for fitness, all Davey-trained and supervised and disciplined, educated scientifically in the Davey Institute of Tree Sur-



JOHN DAVEY
1846-1923
Father of Tree Surgery
Reg. U. S. Pat. Office

gery, the only school of its kind in the world.

The Davey standard of professional service requires that no client's money shall be wasted on trees too far gone to save.

There are many border-line cases where there is a reasonable question about the chances of saving certain trees. Davey standards require that only first-aid treatment be given in an effort to build up the vitality in such cases, before a larger investment is made.

There are many starving trees encountered, and Davey standards require that such trees be properly fed and their vigor re-established before investing more of the client's money.

You can trust Davey Tree

Surgeons. They follow definite rules of professional procedure and are held to it by regular supervision and strict organization discipline.

Branch offices maintained in the larger cities and permanent representatives in many other places. Write or wire Main Office at Kent, Ohio, or the nearest branch office, for a free examination of your priceless trees without obligation on your part.

Tune in Davey Tree Surgery Hour
Every Sunday afternoon, 5 to 6 Eastern time; 4 to 5 Central time; over the Red Network National Broadcasting Company. Featuring the old-time songs that everyone knows and loves. Listen to Chandler Goldthwaite on the Skinner Residence Organ.

THE DAVEY TREE EXPERT CO., Inc.
556 City Bank Bldg., Kent, Ohio
MARTIN L. DAVEY, President and General Manager

Branch offices with telephone connections: Portland, Me., Boston, Worcester, Springfield, Pittsfield, Providence, Hartford, Torrington, Westport, Stamford, New York City, White Plains, Patchogue, L. I., Hempstead, L. I., Albany, Syracuse, Rochester, Buffalo, Toronto, Montreal, Orange, N. J., Ridgewood, N. J., Madison, N. J., Philadelphia, Baltimore, Washington, Richmond, Pittsburgh, Cleveland, Toledo, Columbus, Dayton, Cincinnati, Indianapolis, Louisville, Lexington, Paducah, Detroit, Grand Rapids, Chicago, Milwaukee, Oconomowoc, Wis., Minneapolis, Des Moines, St. Louis, Kansas City, Mo., Charlotte, N. C., Atlanta, Jacksonville, Orlando, Birmingham, Montgomery, New Orleans, Tulsa, Dallas.

There are no Davey Tree Surgeons except those in the employ of The Davey Tree Expert Company

DAVEY TREE SURGEONS

Mention AMERICAN FORESTS—It Helps

PRESS OF JUDD & DETWEILER, INC.
WASHINGTON, D. C.

